

# *The* MACDONALD COLLEGE *Journal*<sup>+</sup>

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MARCH 1941

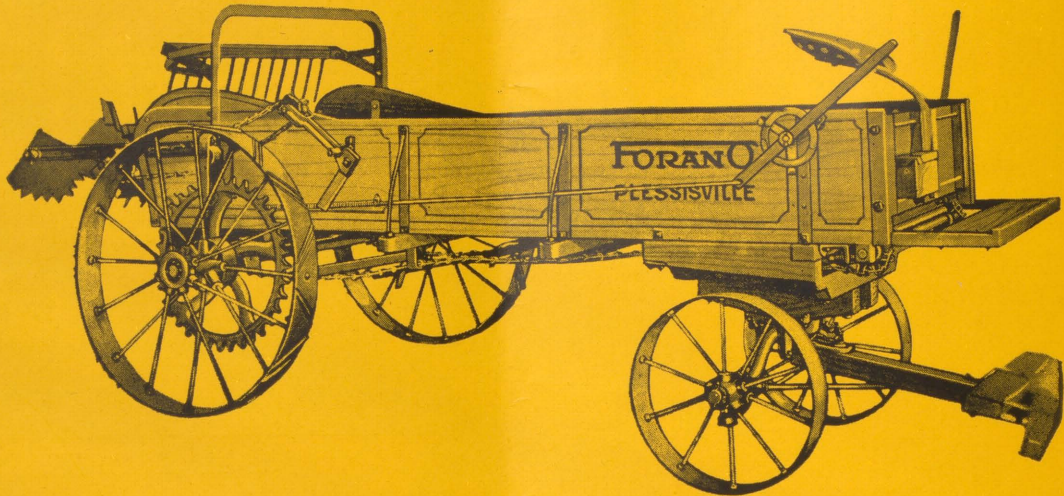


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## EDITORIAL COMMENT

The Quebec Department of Agriculture is organizing a campaign for increased milk production in Quebec. As Mr. Adrien Morin pointed out in a recent circular letter, the need for greater returns from our dairy herds has been recognized for a long time, but the present demands upon our dairy industry has brought the problem into the limelight. Dairy products are in great demand. We have contracts with Great Britain to fill, and the home market is absorbing more butter and cheese than ever.

The objective set by the Department is simply this—to increase the average production per cow to 4500 pounds of milk a year, an increase of only 200 pounds from the present level. It can be done, and without going to any great expense. Suggested ways are by raising the quality and quantity of crops grown for feed on the farm. Better hay could be grown on many farms; more grain could be grown at home. Silage and roots should be available for winter feeding. Pastures can be improved by fertilizing.

Several items dealing with this question appear in the Government section of this issue, including a summary of Mr. Morin's circular letter referred to above.

### More Efficient Production

During these trying times, when farm labor is scarce, when farm prices are not too satisfactory and when there is so much talk of farm organization and government policy, we should not lose sight of the fact that in the final analysis our success in agriculture must be based on "Efficiency of Production." A badly run industry can never prosper. Our markets require a steady flow of quality products at low cost otherwise markets are lost to more efficient competitors and the whole industry suffers.

Efficiency in farming will not be an easy matter so long as the war lasts. Farm help will become increasingly scarce and farm equipment and supplies are almost sure to advance in price. To meet this situation farmers will be obliged to revise their plans, perhaps reorganize their whole enterprise and carefully study their management practice. Unproductive cows will have to be eliminated; crops will have to be grown which supplement one another and provide the greatest feed value. The farm layout may have to be changed to accommodate larger machinery. There never was a time when the farmer could more profitably study and plan to achieve efficiency. Going at it blindly will lead to serious difficulties.

### The Short Courses

Fifty young men went back to their homes this week after spending six weeks at Macdonald College taking courses in either Farm Management or Farm Mechanics. They worked hard in the workshops and in the study groups and absorbed a lot of useful information. Two of the students have written us telling what they thought of the courses, and we are glad to print these letters in this issue, and to show you some picture of the boys at work. It was not possible to show all the members of the Rural Problems Club; the photo on page sixteen includes only one group of the sixty or seventy boys who took part in the discussions.

The Women's Short Course in Rural Education was also a great success, and some interesting comments about it, written by representative members of the course, will be found on the centre pages.



# Science and Our Way of Life

by R. C. Wallace

*(As scientist, administrator and leader in movements for public welfare Principal Wallace of Queens University has made notable contributions to Canadian life)*

WHEN WE give the matter thought, we find ourselves somewhat perplexed about the problems which beset us on the onward march of Science. We have been giving long and constant attention in Canada, as elsewhere, to the producing of a better strain of wheat, to the elimination of rust and stem rot, to the activation of the soil—all to make two ears of better wheat grow where one ear grew before. Over night we find ourselves burdened with a surplus of wheat and a market price below the cost of production. Have we been working all to no purpose? We breed a strain of cattle with a higher milk yield, in volume and in butter fat percentage, than we bred before, and we find the price of butter depressed below production costs. With the development of the internal combustion engine we change over from horse power to tractor power on the farm, and find that we have lost much in gaining a little. We have conquered the air through the understanding of the short wave, and the radio has come into the home, bringing with it news from afar. The isolation of the farm has gone, but the air has been flooded with the trite, the banal, the uninspiring. On balance, have we been helped? The car has come, but the little country corner store and corner village have gone. We pass them by, and go shopping twenty or thirty miles further on in the larger city. Something has gone which, when gone, is missed.

## Progress Not Inevitable

The instances might be continued, almost indefinitely. Progress is not inevitable. Seeming progress may prove not to be real. Here we go forward; there, insensibly but inevitably we slip back. In the material sense we may seem to advance; in the intangible and spiritual, we may even then be in retreat. What of it, then? Is all our boasted science of no avail? Would we be happier, and therefore better, if we were to adjust ourselves to nature, as the Chinese adapted themselves for so many generations, rather than make nature adjust itself to us, as we have done in our western civilization for the last three centuries? I have seen the northern Indian look on with an amused interest at the hurrying, bustling civilization which we have created. I have had the instinctive feeling that he felt that we have somehow missed the road, and that he knew a better way.

## We Dare Not Turn Back

What then? Must we hold our hands? The question is useless. We cannot hold back even if we wished to do so. The urge of the human spirit is for greater knowledge, and still greater knowledge. We shall put more and more questions to nature, and some of them, at least, she

will answer. The suggestion that Science should declare a holiday, made some years ago, was not even considered seriously. Scientists are not the kind of people who take holidays. Moreover, whatever the balance between gain and loss, no one of us would want to turn the hands of the clock back. The level of comfort has been definitely raised; the standard of education has been advanced; the enjoyment of our offwork hours has been heightened. It is not that we should stop, or even put on the brakes. It is rather that we should endeavour to plan more carefully the direction in which we should go. That we cannot do without taking thought. And in taking thought, we are no longer scientists only, but we are beings with interests wider than the purpose for which as scientists we are endeavouring to work.

We have, I think, come to a realisation of the fact that no gain is possible without the danger of some loss, and it is the part of wisdom to anticipate these possible losses as far as may be. The finer the breeding of cattle or horses or wheat, the greater, by and large, the susceptibility to some disease, old or new. As we advance into the unknown, we lay ourselves open to attack from new quarters. Every scientific discovery, put into practical use, needs new scientific discoveries to protect or to strengthen it. The fight is unending. The battle is never won. Therein lies the constant challenge.

## Learn To Work Together

There are complications. The repercussions of our scientific progress are not always, probably not usually, in regions where further scientific discoveries alone may assist. They are in the human area, in the economic, in the sociological, in the spiritual. The scientist and the economist, the sociologist and the psychologist, the historian and the man of affairs are all involved in the matter together before we are through with it. Hitherto this has been a somewhat uneasy team. The members have preferred to play solo parts, and team play has been bad. We are beginning to realise that this will not do. It would have been possible to avoid some of the costly mistakes in the settlement of the West had those who knew gone into a huddle before the play was called. It would have been possible to have anticipated some of the serious dislocations to settled ways of living which the sudden introduction of the motor car has caused, had the economist and the sociologist been called in in advance. I say "some" advisedly, because no man, no matter how well trained, can see clearly into the future. Some, however, are trained to see further than others, and it is the height of folly not to make use of them.



Let us be frank about it. Science is a-moral, and the scientist, as a scientist, is not concerned about the repercussions of his discovery. All that he has on his conscience is that his work be true to the facts. The rest will look after itself. As a man, with all the responsibilities that his moral nature places on his shoulders, he feels differently. But he is a scientist, first and foremost, charged with the sacred duty of discovering and promulgating the truth. His contribution, therefore, is not complete. It must be viewed in the light of human needs and human aspirations. It needs a court of judgment.

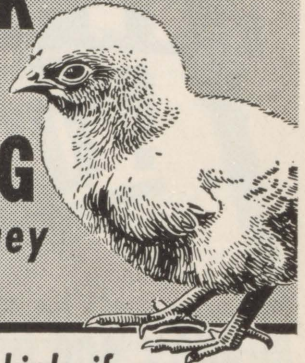
### Social Engineers Needed

How is this to be set up? Are we to say to the scientist that he may work on this but not on that? That would stifle the spirit of science, which, like another spirit, bloweth where it listeth. Science must be left free to discover the truth, otherwise there will be no progress. But it is possible, nay more, it is necessary, that the places should be indicated where practical applications of science are needed. To take a pertinent example, science can assist, and should assist, in the utilization of surplus food supplies. Moreover, when an application of science is to be launched on the unsuspecting world, consideration should be given by competent people, representing the social sciences as well as the sciences, as to the effect which this innovation is likely to have on our lives. Safeguards, protection, even defense mechanisms may be set up in advance, if due thought is given to the matter, which may save much in wear and tear in human values as well as in actual financial cost. In a word, more wisdom, and more planning, is needed if we are to use our ever-expanding facilities aright.

Why do I raise this question? For the reason that we are a scientifically minded people, in a country of great possibilities for human happiness and human comfort. We are endeavouring to preserve the democratic way of life. That can be done if we seek for and safeguard the truth, wherever it is to be found, and use it in the highest service of our country and the world. This needs courage, judgment, wisdom, sound understanding. I am pleading for wisdom and sound understanding in the use of man's knowledge and man's ability, in order that we may live on the highest spiritual level of which man is capable. Then, indeed, Canada would be great.

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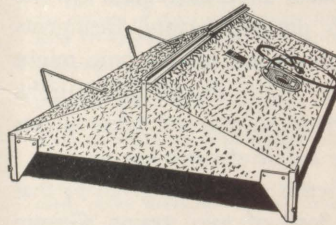
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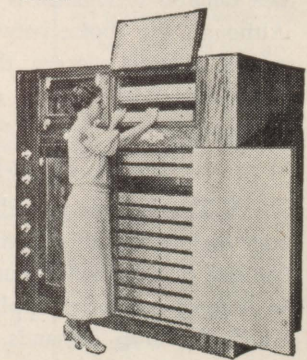
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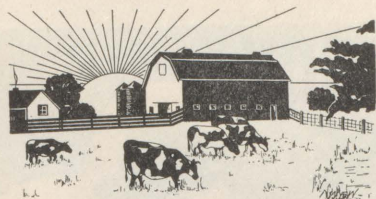
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## AGRICULTURE

*Articles on problems of the farm*

# Should We Grow Alfalfa?

by J. N. Bird

**D**URING the last thirty years there has been almost a tenfold increase in the acreage seeded to alfalfa in Canada, and the trend is still upward. Its use in mixtures with timothy and red clover is also being extended in those regions where it does not thrive quite so well and where it is therefore less dependable. The wider use of this crop should be encouraged, for wherever it can be grown successfully, it will give higher yields of high-quality feed at lower cost than any other forage crop.

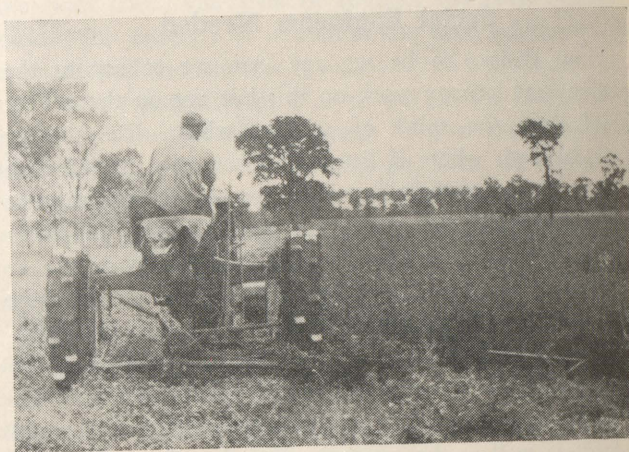
There are many fields still remaining in sections of eastern Canada which will grow alfalfa or can be made to do so at a reasonable cost. In order to locate the areas which are most suitable, it is well to include a small proportion of alfalfa (2 or 3 pounds per acre) in the seed mixture. If it does well, the proportion in the mixture could be increased when the field is seeded again. On the other hand, if the growth is not satisfactory, treatments that would improve the soil conditions for the crop might prove worth while. Even if the alfalfa should fail entirely, there would still be a sufficient number of other plants from the mixture to produce a fair stand.

When buying seed, preference should be given to that of known Canadian origin. Seed of two strains, Grimm and Ontario variegated, is commonly found on the market. Although the choice between these two should not be a matter of great concern, the hardiness of Grimm is somewhat more dependable, especially if registered seed is obtained.

### A High-Fertility Crop

Alfalfa is high in yield and quality, and needs fertile soil for successful growth. Poor growth of alfalfa may indicate that the soil is not sufficiently well drained, is low in lime or is poorly supplied with the kind of plant food which the crop demands. Quite often, various combinations of these unsatisfactory conditions will be found responsible for lack of success with alfalfa.

With a crop so exacting in its drainage, lime and fertility requirements, the use of corrective treatments will likely be found necessary before the crop can be grown with success on certain farms. Unless the natural drainage is particularly good the best results will not be obtained without some under-drainage. On acid soils, the liberal use of lime will be found necessary, the amount depending upon the acidity of the soil. In many cases the additional



Alfalfa gives a good yield of high-quality feed.

use of manure or commercial fertilizers, or both, will be needed to ensure a vigorous stand.

To provide the soil conditions necessary for the successful growth of alfalfa may therefore involve considerable expense. In some cases this will be justified not only in the results obtained with the alfalfa, but also with other crops grown in rotation with it. On the other hand, there will be places where the treatments necessary to put the soil in a condition to grow alfalfa will be too expensive.

### Aim To Secure Good Stands

The high value of the crop and the number of years that a stand may be maintained under favourable conditions justifies a little extra care at seeding time. A very favourable seed bed for alfalfa can be prepared following a cultivated crop or on fallowed land. This helps to ensure freedom from weeds and volunteer grasses which might otherwise hinder the formation of a thick stand.

Early spring seeding with a nurse crop is the usual practice and is the one to be most generally recommended. Seedings may also be made on clean, well-prepared soil as late as the middle of July and still allow for sufficient top growth before winter.

When seeding alfalfa for the first time, it is advisable to inoculate the seed with a culture of legume bacteria which may be obtained at small cost from any commercial seed firm. In ordering this culture it is necessary to state that it is intended for use with alfalfa. It is also necessary to state the quantity of seed which is to be inoculated.



The directions for applying the culture to the seed are supplied along with the culture and should be carefully followed. It should be ordered a short time before the field is ready to sow.

### For Long-Lived Stands

Under conditions favourable to its growth, alfalfa is a long-lived crop. Every effort, therefore, should be made to obtain high yields of this high-quality crop over as many years as possible. In this connection the cutting or grazing treatment which the crop receives has a special importance. No clipping beyond that necessary to control weeds should be done in the seeding year. Since a vigorous fall growth is essential for the proper overwintering of the crop, it should not be removed by late cutting, as in September, or by close-grazing in the fall. Although this may seem at times to be wasteful of feed, it helps to ensure a vigorous stand which tends to resist winterkilling and remain strong for a greater number of years than when the fall growth is removed.

Where seedings are to be sown for more than two years, there seems to be a definite need for a legume which is more long-lived than red clover. If alfalfa can be made to fill this place so much the better; at least, why not give it a trial?

### LANGDON HILL EDITH RETURNS HOME

Grand Champion Jersey female, "Langdon Hill Edith", granddaughter of "Pogus Lady Golden", has recently been purchased by her original owner, R. W. S. Shuter, of Sweetsburg, Que.

This Jersey cow was born on the Shuter farm then sold by her breeder, at the age of six months, to an Iron Hill farmer. When two years old the promising dairy queen was purchased by Mr. E. C. Rose, a progressive farmer in Sherbrooke County, near the City of Sherbrooke, and was a "star" in his dairy herd from that time on.

An easy winner at the Sherbrooke Fall Fair "Edith" was a farm animal coveted by many a dairy farmer, and a few weeks later was purchased by her first owner, R. W. S. Shuter, and taken back to her birth place, at the age of six years.

During the four years of her stay on the Rose farm this Grand Champion Jersey presented her owner with four of her progeny, three bulls and one heifer.

Under the War Measures Act providing the Quebec Department of Agriculture with authority to seize flax and other crops infested with dodder and to prosecute the producers or handlers, two prosecutions have been conducted. Seed flax containing dodder has also been seized and is released only when disposed of for the manufacture of oil.

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*\*Computed by J. F. Singleton (see  
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"We had 9 pure bred Ayrshire cows that had been forced for high production and were unsuccessful in getting them safely in calf again. Each was mated for three consecutive periods and in no case did a single cow catch. After treatment with Rex Oil we succeeded in getting 7 out of the 9 in calf."

"Our herd reacted about 80% to Bang's test. Before destroying it we decided to try Rex. Of 34 animals treated all freshened as regular as if Bang's had not entered the farm. Believe it or not, two animals kept as checks and not treated, aborted. We appreciate the way Rex Wheat Germ Oil saved us hundreds of dollars."



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# Handling the Spring Market Stock

by W. A. Maw

**E**GG PRODUCTION is naturally at its peak level during the spring months. Market egg prices are usually the lowest for the year. The poultry meat market is in need of fowl and broilers. Attention must, therefore, be given to the reduction of the laying flock by culling out the poor layers and breeders. As the majority of the eggs for hatching are set by the end of April, the culling of the adult flock should commence about the middle of April, selling off part of the heavy hens. A continuous program of weekly, or at least monthly, flock reduction should be followed. The aim should be to carry only about forty per cent of the original flock of adults through the summer for egg production. If a plan of marketing the poor layers has been followed throughout the winter months, only the best hens should be held for summer production. The extra market value of the fowl sold during April, May and June should be sufficient to offset any extra returns which might be received from egg production during the summer months, after which the fowl would bring much lower prices as meat. All male breeders, not being held over for a second year, should be sold as meat as soon as the last hatching eggs are collected.

## Early Broilers Pay Best

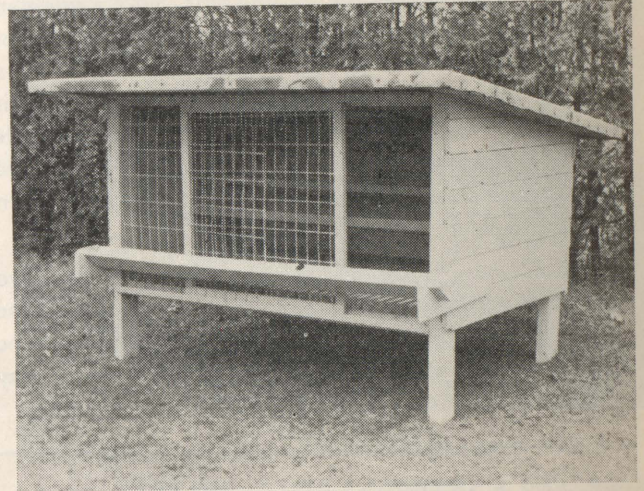
Early hatched chicks are most profitable for meat as well as for fall layers. The surplus males should be considered as meat stock as soon as they are separated from the pullets and put on range. All Leghorn cockerels should be prepared by special feeding to be sold as broilers at eight to twelve weeks of age. It is not profitable to carry them any longer, unless as capons which might be grown to seventeen weeks of age. Leghorn cockerels will make plump broilers of one and one-half pounds in weight at eight weeks, or two pounds at ten to twelve weeks. Heavy cockerels, such as Plymouth Rocks, Reds, Wyandottes, will be one-quarter to one-half pound heavier at the same ages. Heavy broilers are in greatest demand.

Broilers may be grown in confinement entirely, although those cockerels which are allowed to range develop firmer muscles and dress out in a plumper finish. If on range the stock should be fed by open hoppers, allowing full-feeding of grain and mash at all times. It is, however, advisable to feed a fattening mash for the last two weeks. This may be fed in troughs on range, but the best results are to be had where the stock is confined to pens, coops or crates. If the birds remain on range the fat and skin will be yellow in colour, unless special feeding of milk and bone char is used to bleach the colour.

## A Fattening Crate

A simple fattening coop or crate can be constructed for fattening purposes. A satisfactory coop for broiler fattening is 3 feet wide by 6 feet long and 2½ feet high

in front and 2 feet high in back. A flat shedroof with an overhang of one foot in length at front and rear is recommended. The floor is slatted with material, ¾ inch by 1½ inches, set on edge ¾ inches apart running from front to rear of coop. The front is either the same material as the floor, set 2 inches apart running from floor to roof for feeding through, or 2 by 4 or 2 by 6 squared wire mesh. A door may be set on the front, but constructed to



A handy coop for feeding fattening stock. allow for feeding across the entire front. A movable V-shaped trough is set on two end-wall carriers about 10 inches above the floor level. This coop will take sixteen broilers. Two roosts may be set across the back section of the coop. Set this type of coop in a shady place facing the sun. This type of coop may be used for many purposes in holding stock, as well as for fattening work.

All fattening stock should be fed a wet mash made up of equal parts by weight of two or three cereals, such as corn, oats, barley, wheat or buckwheat, mixed with liquid skim milk or buttermilk. If liquid milk is not available, powdered milk and beefmeal may be used in its place. The amounts recommended are 2½ pounds powdered milk and 3½ pounds beefmeal to each 93 pounds of cereal. One pound of salt is added to all rations. Mix the ration to a wet state which runs freely from a pail, approximately twice the weight of liquid milk or water to the cereal mixture. Feed three times daily just what the birds will eat readily, then remove any remaining feed. During the warm weather water may be given between feeds.

Adult fowl, to be marketed, may also be similarly fed for a short period in this same type of coop.

All market stock, whether it be adult hens or males or young stock such as broilers and roasters, should be fed for meat quality. When shipping to market avoid including in the lot any culls which are poor in fleshing, since such birds reduce the general value of the shipment.



## ONE AND ONE HALF MILLION PIGS DIE IN CANADA YEARLY

by G. C. Ashton

THERE WERE 6,533,000 pigs born in Canada during the period from December 1939 to May 1940 according to a report of the Dominion Bureau of Statistics. Of this number only 5,133,000 were saved. This means a loss of twenty-one per cent or one out of every five born. The percentage loss reported for the Province of Quebec is the same as the average for the whole of Canada. What proportion of this loss is due to each of the many causes is not certain. Analysis of samples of milk from sows that have lost their litters reveals, however, that in many cases there is a lack of essential food nutrients in the milk as a result of improper feeding of the sows after they are bred.

It is important, therefore, that pregnant sows receive all the necessary food elements; this point cannot be stressed too much. One substance often lacking in the feed is vitamin A. The fact that much of it is not made use of during the pregnant period but rather stored for use after farrowing does not lessen its value in the feed at this time. After the birth of the litter the vitamin which was stored in the body goes into the milk produced by the sow. Only a fraction of the daily vitamin consumption of the sow can be used for this purpose. This explains why the sow is unable to make up after farrowing for any lack of this vitamin which may have existed in her feed before the young pigs were born.

New born pigs are very delicate creatures. Their life processes proceed so rapidly that any weakness in their constitution may easily result in death. It requires only seven days for the young pig to double its birth weight. A lack of vitamin A in their bodies or in the milk at this time lowers their vitality sufficiently to leave the way open for infectious germs to get in their deadly work. Pneumonia is a characteristic result of severe vitamin A deficiency in suckling pigs. The development of pneumonia in such young animals invariably proves fatal to them.

Early symptoms of vitamin A deficiency in young pigs are scours, listlessness and loss of bloom. They also lose the power to see clearly, particularly in subdued light. If the deficiency is not corrected total blindness results. Anaemic conditions often develop as well, since vitamin A appears to be necessary for the proper use of iron.

To prevent such conditions as these developing, nature has provided pigs with places in which to store vitamin A. The pregnant sow has at least two such places: the liver, and the colostrum or first milk. While the later milk may contain vitamin A, it does not act as a storage depot. In order that the pregnant sow may be able to store the vitamin she must be given a liberal allowance of it in her feed.

(Continued on page 11)



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# Modern Orchard Grafting

by R. J. Hilton

THE majority of our production headaches appear to be the result of surpluses rather than shortages. In this class of headaches, varying in intensity each year, but quite definitely acute since the outbreak of war, is the apple crop. There is no question but that the loss of our overseas markets is placing our fruit growing industry on a more strongly competitive basis than ever before.

This is already leading first to increased production and consumption of processed fruit products, and secondly to the reduction of bearing acreage by removing some of the older less profitable orchards. In addition to these adjustments, fruit growers are going to find it necessary to reduce the number of varieties by getting rid of unprofitable sorts.

How may this be done, asks the individual grower, without loss of possible revenue? Grafted mature trees, as everyone knows, take eight to fifteen years to return to profitable bearing. Let us see what the recent investigational and practical work can offer us as a possible solution.

## The Standard Grafting Technique

The standard methods of grafting, variously known as *cleft*, *bark* or *rind*, *inlay*, *bridge*, *strap*, etc., are more or less well known to all fruit growers and home gardeners.

The technique, briefly, consists of matching the cambium layers of stock and scion at some point or points, so that new cells may be formed to make a true union. This cambium is a very narrow band of cells (usually not more than four cells wide) that encircles the sapwood of the plant just inside the layers of bark. Once the "match" has been made, the entire wound is covered with some material such as clay or wax to prevent the drying-out of the cut surfaces.

The main points to remember in grafting are: (1) have scions dormant and in healthy condition, and do not allow them to dry out, (2) make all cuts, in preparing the scion and stock, with a sharp knife, and with a straight surface, (3) make certain that the cambium layers of stock and scion are united at least at one point, (4) wax the union surfaces thoroughly.

## Time of Grafting

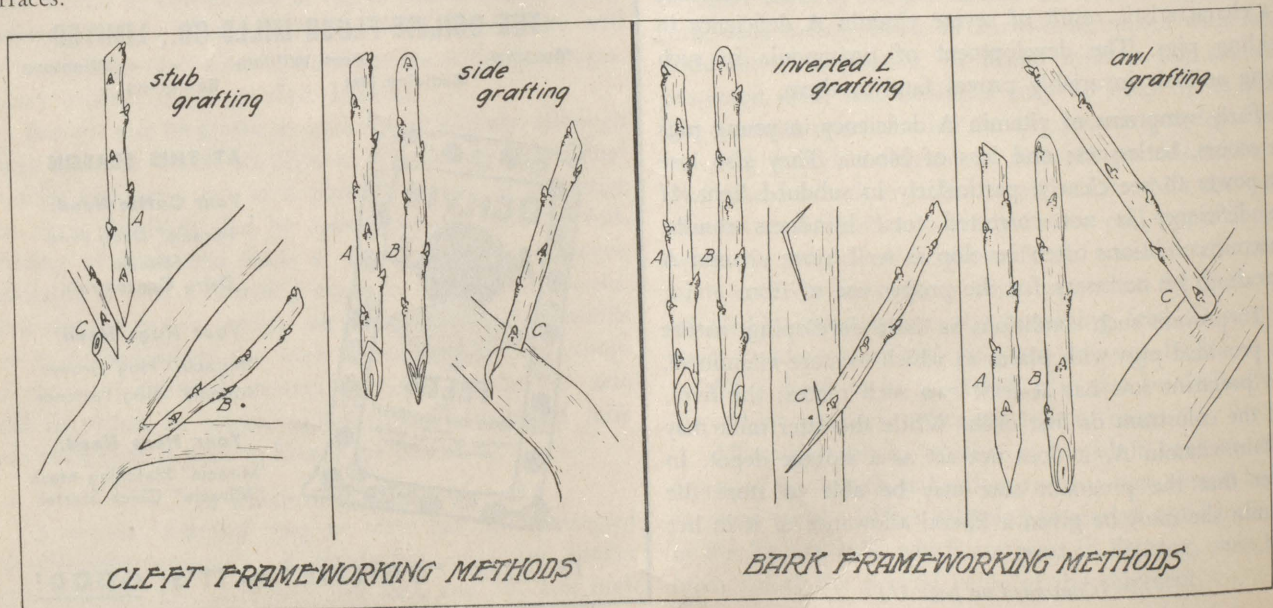
There are two main types of grafting, namely those in which the scions are inserted *into* the wood of the stock ("cleft" or "wood"), and those in which the scion is inserted *between* the bark and the wood of the stock ("rind" or "bark"). The first of these may be done successfully in the Quebec climate anytime from February to June, inclusive, but the bark methods can only be employed when the bark is "slipping," that is, when sap is flowing. The time of their operation, then, is restricted to the May-June period.

Since growers often have more time for grafting in March or April, the cleft methods are therefore more widely used.

## Frameworking

The term *frameworking* is applied to methods of grafting mature fruit trees, in which the whole main and secondary framework of the tree (stock) is retained and made use of in grafting. This is opposed to the term *topworking* or *topgrafting*, applied when the main frame of the tree is cut away and re-grown with the new variety. Topworking has been for centuries the means employed when over-working young or mature orchard trees.

In the late 1920's an applegrower in Tasmania, faced





with the problem of grafting hundreds of trees of unprofitable varieties discovered that by leaving as much as possible of the original top, and putting scions thickly all over that top, the trees not only remained free from a deadly "die-back" fungus growth, but also came into profitable bearing the following year. This method was developed and under the name "frameworking", is now in commercial use in Australia, South Africa and England.

In Canada it was first tried in the early '30's by C. M. Collins, then Agricultural Representative for Annapolis County, Nova Scotia. It has not become established commercially here, however, as the fruit growers of Canada have been in the past somewhat slow in converting unprofitable varieties to better ones.

#### Four Chief Methods

There are four chief methods or types of framework-grafting, two of which are *wood* or *cleft* and two are *bark* types. There are many modifications of these types, however, and each grower who works at them will find something to modify to fit his own tastes and conditions.

**Stub grafting:**—Recent work carried out in England places this type of framework-grafting as the most vigorous of the four. By this method, small lateral branches which arise from the framework of the tree, are cut into at the base (B) to grip a wedge-shaped scion-base (A), the scion being firmly held by the spring of the wood. The lateral is then cut off directly above the scion base (C), and

the scion remains firmly secured in the remaining "stub."  
**Side-grafting:**—A cut (*always* use a sharp knife) is made into the wood of the "stock", i.e. scaffold branch of the tree being frameworked, and a scion with a basal double-wedge cut (A) and (B) longer than that for the stub graft, is inserted either by bending the branch to open the cut, or on larger limbs, by pushing the scion into the cut (C) by force.

**Inverted-L grafting:**—So-called because the cut into the branch of the tree being frameworked is shaped somewhat like the inverted letter "L" (C). This cut is made through the bark only, and the angle at the point where the arms of the cut meet one another should be greater than a right angle. The scion is cut with a through cut (A) on the side which will face the wood of the stock, while a slight cut is taken obliquely off the reverse side and another at right angles as in (B). The cambium is thus exposed along three surfaces, and the scion is then slipped between the bark and wood, and held in place with a small wire nail (C).

**Awl grafting:**—No cut is made into the stock, but the insertion for the scion is made with a bent sharpened tool such as a bent awl or screw driver. This tool is inserted at more or less right angles to the branch, so that the curved blade follows the contour of the branch between bark and wood. The scion base is cut in a wedge shape about 1" long (A) and (B) and pushed into place (C) so that a union

(Continued on page 13)

## Turning to the Plant

THERE is an ever-increasing tendency on the part of research workers studying soil fertility problems to go to the plant itself to determine what it needs and how best to supply those needs. The closer study of nutrient deficiency symptoms has indicated that in many physiological disorders where pathologists were trying without success to identify the causal organisms, actually a deficiency of nutrients was the basic difficulty, the organisms present gaining entrance due to the weakened condition of the plant.

More recently analysis of plant tissues is being used to determine whether the plant is obtaining the mineral nutrients it needs. As knowledge of optimum nutrient ratios in plants increases, this method offers great possibilities, particularly in determining nutrient requirements of plants difficult to investigate by the ordinary field-plot technique.

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# CO-OPERATION AND MARKETING

*A page of interest to members of farmers' co-operatives*

## MARKET COMMENTS

Changes in prices of farm products during the past month included a rise in the prices of beef, veal, hogs and chickens and a decline in butter, eggs, and potatoes. Such changes are to be expected and these changes in price are what keep the various phases of the industry in balance.

The changes from year to year are even more important. Compared with 1940 this year seems to be starting in well. Beef and veal are higher than one year ago and hogs and potatoes lower. This also illustrates the difficulty of having the required amount of all varieties at any one time.

In 1940 market receipts of hogs numbered one and three-quarter million more than the number of the previous year. Ontario provided 523 thousand of this increase, Alberta 505 thousand, Saskatchewan 437 thousand, Quebec 188 thousand and Manitoba 184 thousand.

In 1940 the prices of farm products was 15.8 points below that of the general level. There were only three years in the last ten that this difference has been as great. These years were from 1931 to 1933 inclusive. In 1940, however, prices of animal products were above the general level while field crops were below, showing a decided advantage for the live stock industry in that year.

## Trend of Prices

|                                                     | February<br>1940 | January<br>1941 | February<br>1941 |
|-----------------------------------------------------|------------------|-----------------|------------------|
|                                                     | (\$)             | (\$)            | (\$)             |
| <b>LIVE STOCK:</b>                                  |                  |                 |                  |
| Steers, good, per cwt.....                          | 7.48             | 8.63            | 9.23             |
| Cows, good, per cwt.....                            | 5.46             | 5.83            | 6.32             |
| Cows, common, per cwt.....                          | 3.97             | 4.18            | 4.28             |
| Canners and Cutters,<br>per cwt. ....               | 3.19             | 3.33            | 3.48             |
| Veal, good and choice,<br>per cwt. ....             | 11.13            | 11.83           | 12.05            |
| Veal, common, per cwt.....                          | 9.73             | 10.38           | 10.28            |
| Lambs, good, per cwt.....                           | —                | 9.00            | 9.63             |
| Lambs, common, per cwt....                          | 9.04             | 8.50            | 8.62             |
| Bacon, hogs, dressed, B.1,<br>per cwt. ....         | 12.40            | 11.35           | 11.50            |
| <b>ANIMAL PRODUCTS:</b>                             |                  |                 |                  |
| Butter, per lb.....                                 | 0.28             | 0.34½           | 0.33½            |
| Eggs, Grade A, large,<br>per doz. ....              | 0.23             | 0.25            | 0.22½            |
| Chickens, live, 5 lbs. plus<br>per lb. ....         | 0.16½            | 0.18            | 0.19½            |
| Chickens, dressed, milk fed,<br>A, per lb.....      | 0.21½            | 0.26            | 0.26½            |
| <b>FRUIT AND VEGETABLES:</b>                        |                  |                 |                  |
| Apples, B.C. MacIntosh,<br>Extra Fancy, per box.... | 1.87             | —               | 1.90             |
| Potatoes, Quebec, No. 1,<br>per 75 lb. bag.....     | 1.10             | 0.65            | 0.60             |
| <b>FEED:</b>                                        |                  |                 |                  |
| Bran, per ton.....                                  | 27.00            | 27.00           | 26.00            |
| Oil meal, per ton.....                              | (34%) 36.00      | (39%) 40.00     | (39%) 40.00      |

## A NEW CO-OPERATIVE IN HULL

*(We reprint this interesting account of a promising new co-operative venture, sent to us by its energetic secretary, M. B. Bonnier.)*

Friday, January 31st., 1941, saw the christening of a newly-born organization in the co-operative field, the "Hull Co-Operative Society". Its immediate aims are as follows:

- To obtain commodities (feeds, seeds, etc.) of good quality at decent prices, or at a saving to the farming population of this district.
- To eliminate corrupt practices such as short weights and measures, adulteration, misrepresentation of quality and grade.
- To eliminate unnecessary competition and waste from the processes of distribution.

Close to one hundred farmers from South-Hull, West-Hull, Breckenridge, Luskville, Chelsea, Ironside, Masham, Farrellton, Gatineau, Templeton, Angers, Masson, and other points, gathered at the Windsor Hotel in Hull, and, after listening to remarks by Messrs. J. W. Delaney, M. B. Bonnier, and G. Michaud of the Quebec Department of Agriculture, they selected the following men to represent them on the Board of Directors for 1941:— Messrs. H. Vipond, President; A. Mongeon, Vice-President; G. Murtagh, H. P. Harris and W. Lapointe, Directors; M. B. Bonnier, to act as temporary secretary and manager.

This co-operative is the result of almost two years of incessant effort and tireless work, both from farmers of the district and officials of the Department of Agriculture. Now, one hundred farmers, all prominent in their community, have decided to get together, just to see if they could not, by joining efforts and forces, do a little better than they are doing at present. These farmers realize that as individuals dealing directly with large feed companies, they cannot hope to bargain on an equal footing. They have, for this reason, given up their individual methods of dealing and have now strengthened their position through united action. Perhaps it will be surprising to see what 100 "little fellows" can do, if they seek to attain exactly what large scale distributors of feed and other commodities have attained. Remember, fellow farmers, that these large business firms started slowly and on a small scale, and have many years of experience behind,—bright and sad ones alike. Consequently, we can expect only very modest results in our starting year.

This Society takes members both in Quebec and



Ontario, so long as they are honest-to-goodness farmers. The Society will only tackle (for the present anyway) the purchasing field in lines such as feeds, seeds, fertilizers, fungicides and insecticides, twine, minerals and salt, fence wire, roofing, and generally all materials and merchandise essential to farm production. As soon as warehousing facilities have been provided, operations will be started. Of course, any farmer—shareholder or not—can purchase through the organization, the price being the same for all. Naturally, if there are any profits, they belong to the shareholders only, and are divided according to the amount of business transacted by each. Furthermore, shareholders must sign 5-year contracts, and subscribe \$50.00, payable in 4 installments of \$12.50 each. This gives them the right to vote and have their say in the affairs of the Society.

Farmers of Hull or Ottawa district should realize that as individuals, they cannot protect themselves against big outfits organized for profits. If they are organized they can. They must transact their own business themselves whenever possible through their co-operative organization. For further details apply or write to 193 Main St., Hull, P.Q.

## One and One-Half Million Pigs...

(Continued from page 7)

Contrary to what might be expected, the need for vitamin A in the sow's feed is not reduced after farrowing. The loss of a large proportion of the vitamin intake as it is transferred from the feed to the milk of the sow, coupled with the production of the large quantity of milk during the nursing period also requires a liberal supply of it for the nursing sow. No reduction in the sow's daily allowance of vitamin A should be made, therefore, until after the young pigs are weaned.

The most dependable and economical sources of vitamin A for hog feeding are the fish oils. These oils appear on the market in natural and concentrated forms. They are dependable because many oils can be purchased with a guarantee of their vitamin content. They are economical since the guarantee does away with the possibility of paying for more of the vitamin than is actually in the oils. Green alfalfa hay, which has been cured without too long an exposure to sunlight, and yellow corn often contain appreciable amounts of vitamin A. The quantity which they may contain, however, is extremely variable. For this reason these feeds may be used to supplement but should not entirely replace the fish oils as sources of vitamin A.

The amount of oil to be fed will depend upon the amount of vitamin it carries. An oil containing 1800 international units of vitamin A per gram of oil is used at Macdonald College. One tablespoonful of this oil given to each pregnant sow daily has proved satisfactory in the sow herd for a number of years.

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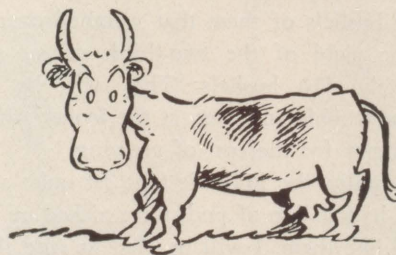
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# A Canadian Garden In Sussex

(The following letter was written in October by Mr. F. A. Slack to his daughter Mary (B.H.S. '36). When Mr. Slack gave up his part in the famous Slack Bros. business at Waterloo he went to England, where he has established the Lindfield Mushroom Nurseries in Sussex. In response to the request of the Ministry of Foods for greater production, he planted a garden, and we feel that our readers will find it interesting to read of the experiences of a Canadian gardening in England. — Ed.)

YOU have asked me for a more detailed account of my experimental garden, so here it is. You know that I have always held that full advantage has not always been taken of the ease with which things grow in this country; so I determined to try a variety of vegetables not commonly seen here.

The soil was a very fine clay loam, and had been under grass for probably twenty-five years or more. A main crop of potatoes and corn was decided upon, and a small kitchen garden. The following account shows the result.

## Potatoes

Two-thirds of an acre was laid off for potatoes. Types sown were Majestic and King George, and planting was done during the first week of May. The potatoes were simply ploughed under the sod in the following manner; plough three furrows, drop the potatoes next to the turned sod, plough three more furrows and drop potatoes, and continue thus until the field is planted, then harrow carefully with a fine harrow so as not to turn up the sod. They were cultivated twice, hoed after the first cultivation and hilled up after the second.

The resulting potatoes were very large and smooth, and there were bushels of them that weighed over one pound apiece. The yield of the two-thirds of an acre will be approximately 450 bushels. They will be sold locally without any trouble and even at the lowest wholesale price will well repay for the cost of growing.

(Incidentally, the Majestic type set quite a lot of seed. About one-half gallon of pods were picked up, and, if anyone would like them, I will be glad to send them out.)

## Corn

Corn is called here Corn Cobs, or Maize.

Half an acre was planted with seed of two varieties, obtained from Sutton & Son, Reading, England.

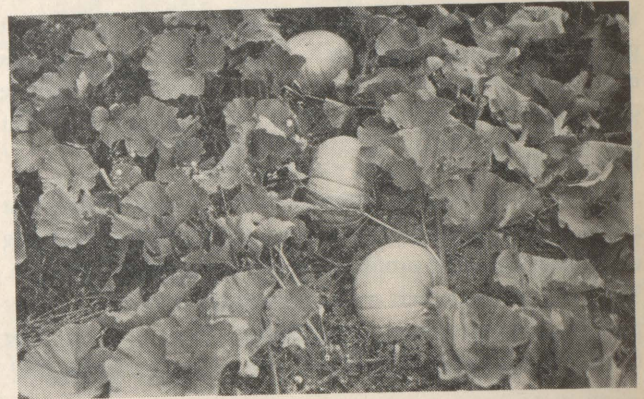
(a) *Sutton's Early White*: A very strong variety, averaging about eight feet in height—large ears but quality was only fair.

(b) *Golden Bantam*: Ears were about half as long again as what we grow in Canada. Very prolific crop, and good quality.

Planting was started the first week in May, and picking started the first week in August. The White Corn matured about one week before the Golden Bantam.

The one-half acre planted yielded 700 dozen cobs. 550 dozen were sent to the London markets, and in spite of the fact that London was being heavily bombed at the time, they brought a price which would be considered fantastic in Canada. The remainder was distributed among

Canadian soldiers and nurses now in this country, who were overjoyed at receiving this favourite article of our diet.



Some of these pumpkins helped to raise money for a "Spitfire"

## Pumpkins

These grew very large, measuring five feet in circumference or more. They are an oddity here, and the people know nothing of their culinary use, but they have been used twice to provide the medium for a "Guessing Contest" for "Spitfire Funds"—the contest being to guess the correct weight, which was in each case approximately 60 pounds.

## Squash

(Green Hubbard—seed from Sutton's) Forty squash were picked from three hills. The total weight of these was 250 pounds, the largest weighing 11 pounds; so, as you can judge, they were all a fair size. These will be stored until later when vegetables are scarce. This type of squash seems to be entirely unknown over here.

## Kitchen Garden

One-twentieth of an acre was planted in peas, beans, carrots, beets, parsnips, onions, marrow, lettuce and pumpkins for our own use; we have had more than we could use, and have plenty of root vegetables for the winter, as well as several gallons of beans preserved in salt. The difficulty in obtaining suitable jars excludes the canning of peas, corn, etc., unless one has a special canning apparatus for using tins.

The ease with which vegetables can be grown here seems strange to a Canadian. The accepted practice is to work the same land, year after year, until all the humus is washed out and the ground settles into the consistency of putty, as there is not sufficient frost to break it up in the winter.

Our "trial garden" has been a great source of interest, and the fine crops were an encouragement to plant yet more another year.



## Modern Orchard Grafting . . .

(Continued from page 9)

should normally take place along two exposed cambial surfaces.

From the foregoing descriptions it is obvious that the stub and side grafts are the two *wood* or *cleft* methods, since the scion is forced into a cleft in the wood of the stock and held there by no tie other than the spring of the wood, and the wax. Conversely, the inverted-L and awl grafts are the two *bark* methods, the former being held in place by a small nail, while the latter is held by the natural toughness of the bark.

### General Considerations

Experience in England and at Macdonald College has shown that the stub and side grafts are generally more vigorous than the bark methods. Sometimes, however, if the top of the tree has been liberally replaced by scions of the new variety (say 500 scions on a 20 year old tree) then great vigour is not necessarily an advantage, since early and heavy fruiting is the aim.

The one disadvantage of framework compared to topworking, namely, that it is considerably more expensive to framework than to topwork a tree, has been proved to be more than offset by the earliness with which the frameworked tree comes into profitable bearing. Indeed, some varieties when grafted in April or May, will bear from a peck to a bushel of fruit during that same season, and a crop of two or three bushels the year following grafting is expected with most varieties.

Compare this with the crops borne on topworked trees. Often one must wait from six to ten years to get a decent commercial crop, and even then the apples are apt to be oversized and poor in quality because of the excessive vigour of the top growth as it attempts to catch up to the already well established root system.

In frameworking at Macdonald College, where good scion-wood was used, the "take" of scions was from 90 to 95 per cent. On 12 to 15 year old trees, from 200 to 400 scions were inserted on each tree, which takes two men about five hours per tree for grafting and waxing. It is confidently expected that this cost will be more than met by the crop within two years. It is therefore more profitable to framework a few trees each year in your orchard and so spread the cost, than to top work them all at once.

Waxing is done with a home made brush of string, using a hot wax, kept hot on a movable coke brazier. The wax may be easily made at home, using the following ingredients:  $7\frac{1}{2}$  lbs. resin,  $11\frac{1}{2}$  lbs. each of tallow and paraffin wax, and  $1\frac{1}{2}$  lbs. of Venetian Red powder, or lampblack. The resin is first melted, then the wax and tallow added, with the "condition" of Venetian Red or lampblack being added after the wax is taken off the fire. The mass should be poured into cold water and pulled like molasses candy into sticks. This has been found to be an excellent wax for Quebec conditions.

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## THE WOMEN'S INSTITUTES PAGE

*A section devoted to the activities of the Quebec Institutes and to matters of interest to them*

### ACTIVITIES OF QUEBEC INSTITUTES

At its last biennial Convention the Federated Women's Institutes of Canada went on record with a pledge to do everything possible to aid in Canada's war effort. The result of this has been far-reaching, one of the first projects being the starting of a Federal fund as a gift to the Dominion Government. This support is to be regular and steady, and to date has resulted in the sum of \$2,000. The Institutes in Quebec are doing their share, and have already contributed \$100.00, and hope to double the amount shortly. The Branches are also encouraging the sale of War Savings Stamps at every opportunity.

A meeting was recently called by H. R. H. Princess Alice for the purpose of co-ordinating the war-effort of organization of women in Canada. The F.W.I.C. was represented by Mrs. C. E. Petch, Past-President of the Q.W.I.

The offerings of gold and silver articles as proposed by Mrs. Mackenzie, representative of the Canadian Institutes in London, has been adopted by several Branches, among them the Scotstown Branch. The proceeds are to be devoted to the purchase of a mobile canteen for Canadian boys overseas.

The making of pen-friends by correspondence with members of Institutes overseas has resulted in bringing first-hand information of the reactions of people actually exposed to bombing and other dangers. Many of the members of the British Women's Institutes live in places which have been subjected to raids, and their realistic accounts bring home to readers just what it means to be living in Scotland or England just now.

Some of the Canadian boys overseas have had the good fortune to contact British W. I. members and the results have been a motherly interest in their socks, gloves, and other necessary articles of wearing apparel, as well as boxes of food, and a happy week-end now and then.

Although the work of the Q.W.I. is necessarily much of a repetition from month to month, yet there are always highlights and outstanding achievements. The women of Richmond are ambitious to own their own headquarters, and recently the Richmond Hill Branch completed the purchase of what was formerly the Healy School house, and have remodelled it as a club-room for their meetings. The name Valleyview has been given to the hall. This is the second Branch in Richmond County to own their own hall. Considerable educational material is used by the Women's Institutes in the Province. This includes papers on various subjects by members or available outside

speakers. A branch library has been formed in Richmond County at Danville, and St. Armand is using the McGill Travelling Libraries. Lachute Branch has a Study Group, the last subject discussed being "Pictures by the Old Masters". An exhibit of famous paintings and engravings was shown.

Cowansville Branch is staging a fashion show provided by the Wabasso Company. Miss Edna B. Rettie will visit the County, giving a course on dressmaking.

Papineau Branches stressed national events at their meetings and heard papers on woman's place in the war.

M. E. McCURDY.

### YOUR DEMONSTRATORS DAIRY FOR FEBRUARY

*February 3-14:*

Women's Short Course.

Discussion pamphlets as used in this course will be available from the College in the near future.

*February 17-28:*

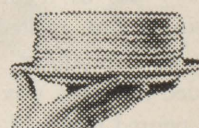
At College.

Compilation of new pamphlets for Women's Institute Reference Library on General Household Economics subjects. Information or booklets and pamphlets sent on request. Returned within two weeks. Will be additional material for "papers" and "lectures" given by members to their groups.

*March and April:*

Courses to be given in two counties, already notified. Missisquoi is one of these.

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## PARENTS AND CHILDREN

by Mary Avison

This column will welcome comments or questions on the problems it deals with, or on others that arise in every normal home.

### Bad Language

The other day I overheard a mother saying of her small son:—"But he **MUST** learn respect!" and she thus justified a slap which she had given him for calling unpleasant names. I found myself wondering what she meant by "respect" and what the small boy really learned from the experience.

I suspect that, like the rest of us, she was a good deal more concerned about what the neighbours would think if they overheard her son's use of such language than about what he really meant by the word he used. And I suspect that while he perhaps learned not to use the phrase again he did not learn "respect" either for her, or for the neighbours by this experience.

I recall one mother who was not shocked nor emphatic in condemnation when her gentle little daughter suddenly exploded with "You dirty thing!" but instead looked carefully over her frock and then asked "Why! Where? I can't see any dirt!" The little girl's interest and puzzlement at this response led to a discussion of the meaning of this slang expression, the mother's discovery that it had been picked up that morning and was being tried out without any real understanding, and to the mother's reassurance because there was no intention of being rude. How glad that mother must have been that she did not punish without question!

This problem of slang, of swearing, of ugly words used in ugly ways, is one that all parents have to face not once but periodically. From the first strong word overheard by the imitative four-year old to the latest catch-word of the adolescent crowd, parents struggle to accept, or to repress, this irrepressible urge to copy the new and the unusual. Yet children young and old are not naturally rude nor do they desire to be ugly and unpleasant in their language. Why, then, is this problem so common?

With small children who are just learning to talk and who are daily adding to their store of words, everything is grist to the mill—big words and little words, queer sounding words, and musical ones, unusual word grouping, and emphatic phrases—all, whether they are understood or not, are picked up and used. Only by such experiment can the child learn what they mean and how they should be used. In this process, it is natural that some useless and some poor language will be collected and tested. Whether it is discarded or retained in the child's vocabulary will depend on the result the child obtains from its use.

Children of all ages, and often adults as well, are

hungry for their share of attention. If they get it in satisfactory amounts and ways they do not need to seek it by less satisfactory methods. But if they get it by using slang, if swearing creates a scene of which they are the centre, they will repeat this because being the centre of a family row is better than never being the centre of attention at all.

As boys and girls grow up, the need to be one of the crowd becomes stronger and a common language can be a sign of membership. When Bill flaunts the gaudiest tie or the latest slang it may merely be his way of asserting that he belongs—not to the family but to the gang. It may be his way of insisting that he has untied the apron strings or is on the way to independent manhood. To try to keep him back either by forbidding such language or by refusing to allow the tie, is only to attempt vainly to stern the tide, and perhaps to push him into even louder and unwise assertions of his independence.

Parents however find it hard to do nothing about things they dislike or of which they disapprove; and this is especially true of "bad language". We are annoyed and unhappy about it, so we do something—we scold, we forbid, we punish, because we must, even if it is not very wise or successful. Let us discover some ways that have a chance of succeeding.

With the pre-school child ignoring may be the most effective method, especially if the word is casually picked up and unlikely to be heard again for some time. It is so soon forgotten if not useful as a word or not successful as an attention-getter. This way is not easy but is worth trying.

Explanation, help in understanding the real meaning and suitable use, may be the best approach with some of the words that children overhear and use to the embarrassment of their elders because the customs and reticences of our society are not yet known to them. Explanation puts such words in their legitimate place and saves embarrassment to child as well as adult. Boys and girls will turn again for assistance to those on whom they can count for such sound judgment, frankness and sincerity.

Lastly, one might suggest that saving sense of humour. To be able to laugh at oneself is a great asset. To be able to help another to laugh at himself is even greater. Children love to share a joke; even at their own expenses if it is really shared in kindly fun. A silly word or recurring slang expression can sometimes be laughed out of court by the deft and whimsical laughter of an understanding adult.

Criticism and punishment leave a child too often resentful and alone. Ways that are compounded of sound judgment, consistency of standards but variety of approach, and a sympathetic, understanding humour are a much surer means for the building of a fine language and of a real respect between children and adults.





Douglas R. Seale The Farm Mechanics Course put on at Macdonald College under the Youth Training Plan is designed to give farm boys a practical course and all possible information which they might use in operating equipment on Eastern Canadian farms. The classes consist of a technical study of gas engines, wood-work, blacksmithing, electricity and farm shop work; also a study of ventilation of barns, use of concrete, farm drainage, automobile ignition and farm buildings. The making of chisels and many other useful topics are covered in the lectures. I believe this is a splendid opportunity for the young man on the farm who wants more information on certain studies which are available at the College.

I am impressed by the fact that the staff are very friendly to us although they are very busy with their regular classes. There is a distinct tendency on their part to help each student individually. That is, when some students show more inclination for certain studies than others, they are encouraged along such lines.

### OUR PICTURES

- 1, 2, 3 — Students of the Farm Mechanics Course in the workshops.
4. — Some of the members of the Women's Short Course.
5. — A corner of the club room during a meeting of the Rural Problems Club.

Besides the regular studies the "Mechanics" students take an active part in the Rural Problems Discussion Groups and the Farm Radio Forums. We have access also to the rink, gymnasium and swimming pool.

It is my belief that if the Short Courses give the student only the ability to *think* they will have achieved their purpose.

Many Short Course students will be so attracted by the College that they will come back for the Degree Course and render a further service to agriculture.

The gratitude of the students is extended to the Provincial and Federal Governments who made these courses possible. To most of the boys in the course this is the first opportunity for an educational experience of this kind. To say that they are enjoying the course is putting it mildly. They are intensely interested, which is shown by their zeal in every class.

### SHORT COURSES

*The presence of over seventy short course students employed, which have met with a degree of success greater than any other method has proved its value beyond a doubt. The students have, at the same time, acquired an instrument which they may use in the future.*

*The accompanying comments by representative members*



"Among the many benefits we have received here is much of further information about the larger school administrative system and we feel that we are now able to present it favourably. It is inevitable that we will be raised."

The talks on nutrition have been especially valuable. We have our County Health Units, but have a feeling that we have learned here of many ways in which we can make use of them.

One of the features of this course that pleased us was the opportunity to visit the Travelling Libraries which will fill a gap in our knowledge of the various college departments, — kitchen, most illuminating and educational. Not the least of the benefits is the opportunity to visit the widely separated parts of the province, and the opportunity to meet the staff of Macdonald College with whom we came in contact.

We realize the vast amount of work and thought that has been put into this and extend our most cordial thanks for the opportunity.

Miss M. LeRoux, of Danville, writes:—

"It is with regret that we turn homeward. Our course has been so full of interest that we shall continue to benefit from the help of the staff before us—that of imparting to our neighbours the knowledge we have gained."

Our sincere thanks go to all who have helped to make this course so valuable. The staff, and to the student body for the many courtesies shown to us.

Miss Irene Shaw, of Shawville, makes this comment:—  
"Use of the discussion method was enlightening and gave us a wider outlook. Miss Shaw's pictures and slides gave us an even wider outlook. Miss Shaw's homes of her pupils should make us more understanding. All the staff of Macdonald College with whom we came in contact."



## THE HISTORY

Macdonald College at one time is notable. But the new methods dared to hope, is more significant. Discussion method was given its first real test in a 'Neighbourhood' weeks of daily study, this substitute for the formal lecture was enthusiastically in this way of educating themselves, and in the education of others. Courses speak for themselves.



thought on many of the problems in our community. The need for the giving of this course. We have learned a great deal about the conditions and to combat successfully the objections that will

of course, a subject near to the heart of any woman. Most of us are getting the fullest advantage of the services which are available. The use of them.

The library service and the fact that so many books relating to the expected that many branches of the Women's Institutes will be in the rural districts.

houses, school rooms and kindergarten — was another feature from this Course is our contacts with so many others from the neighbourhood and views with them.

involved in preparing this Course, and we deeply and sincerely thank them in which we have been entertained."

Mrs. GEO. T. PARSONS, Pres. W.I., Bury, P.Q.

We have received inspiration to strive for better things, and they have supplied us for many months to come. We have a real task ahead of us during our stay here.

As far as possible — to Miss Ramsay, Dr. Brittain and the College

points of view on several subjects. The libraries and moving pictures, the need of a young teacher's need of co-operation from the community and the courteous and unfailing aid which we received from all the people.

To say the least, we of the Short Courses are certainly enjoying our stay at Macdonald College. To be placed in a more congenial atmosphere of fellowship and understanding could hardly be imagined. The very buildings themselves, massive and impressive as they are, begin to take on a friendly touch. But it is the good fellowship of the staff and students of the College which makes the place so livable. Adequate facilities for pleasure and exercise are provided for us as with regular students.



Howard C. Fraser touch. Most of us are rooming at Harrison House where Mr. L. E. McKay lives with us and has charge of our study periods. The Northern Electric Company has kindly lent us a radio and we all listen to the Farm Forum on Tuesday nights. We have organized two Radio Listening Groups—one composed of those boys from west of Montreal, the other of those to the east. Dean Brittain and others of the Professors have helped us out in our discussions.

Our group, in which there are twenty-five young farmers, or would be farmers, is engaged in the study of such topics as Farm Planning, Co-operation, Farm Problems, Farm Mechanics, Livestock Production and Judging, Crop Production, Poultry Production and Horticulture. We are learning through discussions and demonstrations under the excellent leadership of men who know their job. Many parts of the province are represented among us, but mainly the Eastern Townships and the Chateaugay and Ottawa Valleys. The types of farming we practice vary considerably yet on the whole our problems are similar.

A world of information is being opened before our eyes and the more we learn, the more we realize what little we really do know.

As part of the Dominion-wide Youth Training Plan, sponsored by the Government, we have the privilege and responsibility of learning all we are able in our six weeks stay here. "Every little bit helps" and "It is always the last straw that breaks the camel's back" are old sayings. We hope as members of this Short Course, that we can do our bit to break Hitler's back. If we can't, it's not because Macdonald College hasn't contributed its share on our side.

Alas, the parting day will come too soon! We look forward to it with both sadness and joy—sadness because of our growing attachment to the College, yet joy in the pleasure of putting the knowledge we will have gained to work for the benefit of our family and friends at home, to say nothing of our own. After all, it is only in a decent democracy like Canada that such an educational body as Macdonald College can properly function, and it is our job to keep it so.



# Feeding The People Of Britain In Wartime

by Dr. Wm. Allen

WITH the crisis of September, 1938, came the unwelcome realization to most of Britain's peace-loving people that war was inevitable and that full preparations must be made without delay for the approaching catastrophe. This changed perspective affected the whole life of the nation, for the free and individualistic operations, so characteristic of Britain's business and British people, could no longer be left to proceed undirected and uncontrolled.

Anticipating the needs of war time, as far as possible, new Ministries were formed to undertake many essential functions, and existing Ministries were given additional responsibilities. The relative importance of the nation's diversified needs had to be determined, and plans of operation were made in keeping with these decisions. Of the important new Ministries that resulted, the three Ministries of Food, Supply, and Shipping are probably of the greatest importance to Canadian Agriculture, although the increased significance of the Treasury in every phase of Britain's trade with other countries is inescapable.

While the importance of food in carrying on the war is readily conceded, this is only one of the many essentials; other requirements are frequently of greater concern to the Government, for sometimes 'guns' are far more essential than 'butter.' Everything produced within the country, or brought in from other countries, must justify its place in the general war programme. This means that comprehensive and detailed planning is inevitable.

## More Food Grown at Home

The Ministry of Food commenced its active operations when war was declared. Its general form and composition had been carefully decided on beforehand. It included permanent civil servants accustomed to governmental administration, and also outstanding men from each of the many groups specializing in food distribution to ensure that the necessary knowledge and experience would be available to undertake the urgent responsibilities. The duty of this Ministry is to feed all the people of Britain adequately, uniformly, and efficiently. That considerable success has attended their efforts is shown by the fact that the people continue well-nourished and in good health, while their morale is excellent.

Foods produced at home are much more valuable to Britain in war time than those that have to be bought elsewhere and carried long distances at great risk. Goods near at hand are easy to buy; their production can be controlled within fairly definite limits; and the powers delegated to those responsible for the production pro-

gramme are wide enough to force farmers to co-operate even where the inducements of the established prices are insufficient. The withholding of feeds and supplies from farmers seeking them for carrying on unwanted operations is decidedly effective when combined with unfavourable prices.

The greatest stress is laid on the production of milk for fluid consumption, and practically all of the supply goes into these channels. Cream is definitely considered a luxury and is not now obtainable. Potatoes are second in importance in the official scheme, and this year's crop in Britain is more than is needed for human consumption. Next come beef and mutton—to make full use of the pastures and to constitute a reserve of meat on the hoof. Cereals follow in importance, and increased production is encouraged in various ways. Pigs and poultry ranking low in their priority list, restrictions on feed for these animals are in operation.

The disposal of all important farm products is definitely under the control of the Government. To market livestock for slaughter, at least twelve days' notice must be given by the farmer, who must await instructions regarding the time and place of delivery for official grading and slaughter. The Ministry of Food thereupon takes over the meat at prices set for the particular grade, to be used as required for the rationed supply.

Imported foods, during the war, must be considered as supplementary to domestic production to fit the plan of the Ministry of Food. It is misleading for outsiders to assume that they can tell better than the British officials what is needed. It is also misleading to assume that prices paid in Britain for home-produced farm products will have any relationship to the prices of similar commodities imported from other countries.

## Imported Foods Controlled

All imported foods are officially controlled—and many are directly imported by the Ministry of Food. Only food-stuffs that are officially approved may be imported into Britain, and the amounts allocated are related to the actual needs of the country—as determined by this Ministry.

The Ministry of Food submits its recommendations for approval as an integral part of the general war programme of the Government, and no progress is possible until this authorization is obtained. Furthermore, nothing can be done without the sanction of the Treasury, which provides the foreign exchange necessary for these operations. The Ministry of Shipping must also give assurance that the



space needed for carrying the commodities to Britain can be provided.

The imported foods considered most essential are wheat, dairy products, fresh meats, cured meats, and fish. Of these, Canada supplies a very large proportion of wheat, a considerable quantity of the cheese and condensed milk, none of the fresh meat, and the bulk of the bacon. A large part of the frozen and canned fish used in Britain is also sent from Canada.

There are also other foods, formerly important in our trade with Britain, which are officially rated non-essential under war conditions and for which only a small import business is provided. Some commodities are definitely unwanted by Britain under present conditions—regardless of our opinions as to their value—as the other commodities more urgently needed already take the available funds and shipping.

To meet the needs of Britain's rationing programme, the foods available must be abundant, relatively cheap, concentrated, storable, and not difficult to handle. Where similar products originate in different parts of the Empire, uniform contracts must be designed to avoid discrimination.

### Reorganization Needed

Under present conditions, many physical difficulties arise which would never be experienced in peace time. The dislocation of normal shipping has diverted commodities

to ports where the usual facilities for handling and storage are not available; consequently considerable transportation overland is inevitable for which adequate equipment is lacking. War has also disorganized the normal distribution within Britain; it has closed important markets, and necessitated the establishment of regional depots, etc., to fit in with the various rationing programmes. The personnel of the long-established peace time agencies of distribution has been drawn on very heavily for war services of every kind, and in addition the voluntary work at night and in emergencies adds heavy loads to those remaining with the agencies. Evacuation of important groups of people from danger areas has also brought serious complications, and the blackout and the air raids have introduced severe difficulties to distribution. Notwithstanding these obstacles and hardships, food is reaching the consumers with remarkable regularity, adequately, in fair variety, and not unduly enhanced in price.

Canada's co-operation in and contributions to the present struggle are highly significant for all parts of the war programme, and our efforts are very greatly appreciated by Britain. Notwithstanding the terrific experiences which are now virtually her daily routine, Britain, together with the other parts of the British Commonwealth of Nations, its allies and friends, is steadfastly preparing for whatever may be necessary to win this tremendous and all-important fight for freedom.

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## THE COLLEGE PAGE

*News of the College — Staff, Students, Graduates*

### ACCOMPLISHMENT

The highlight of this session's work at the college has been in the field of extension work. Several activities have been undertaken, each part of a carefully worked out plan. The Eastern Townships Community Schools which were held last fall, the Listening Group Leaders' Conference, and the Women's Institute Short Course in Education were all part of this plan. So are the Rural Problems Club, the local branches of the Canadian Farm Forum and the discussion groups that have grown out of these activities. The emphasis in all these is on the principles of self-help, mutual aid, and organization. The individuals concerned are not only receiving something—they are giving something. They are learning new facts, but even more important, they are mastering a new method—the method of the discussion group, which it is expected they will use to advantage in their own communities.

The two short courses which closed on March 14th are also part of this general plan. As far as we know, they are the first to follow the technique of the discussion group, which is the unique feature of both of them, but particularly of that in Farm Management. Both students and staff were enthusiastic about the new system. Everyone took some part in each lesson, and opinions and points of view came out that would never have been brought to light during an ordinary lecture.

The students in the Farm Mechanics course spent much of their time in the workshops and there were few formal lecture periods. The Farm Management group were subjected to few formal lectures either. Working from prepared outlines on the subject being studied, they got together in groups with the instructors and discussed the subject thoroughly. Extra periods were provided for supervised study, when all outlines and supplementary material were studied in advance. Both groups attended the Rural Problem Club meetings and listened to the Farm Radio Forum broadcasts.

During their stay the boys were treated as regular members of the student body. They made good use of the gymnasium and the rink and were welcome at all the regular entertainments and dances.

They enjoyed their stay with us, the staff enjoyed having them, and these two short courses rank as the most

successful ever held at the College.

By the time this issue of the Journal reaches our readers the Short Course students will be back home. We present herewith pictures of these classes, and wish all these students the very best success in their future careers.



Short Course in Farm Management and Organization.



Short Course in Farm Mechanics.

Lieutenant D. W. Creelman, '38, has been spending part of a two-weeks leave at the College. He has been training in the Maritimes, where he is in command of an anti-aircraft platoon.

\* \* \*

Gerry Haslam, '36, was in to see us not long ago on his way to Ontario, where he is going to work as inspector of munitions. Since graduating he has been employed as a chemist by a pulp and paper company in Nova Scotia.



## FARM BRIEFS

Record consumption of wool and prospects that still greater quantities will be required to meet Government and civilian needs in the United States defence programme have accompanied a price rise to the highest in modern history.

Domestic greasy wool prices have advanced one to two cents a pound recently. This is equivalent to two to five cents a pound on a scoured basis. Some quarters of the textile field openly assert the price is likely to be strained severely within the next month when a large demand for United States army requirements is made.

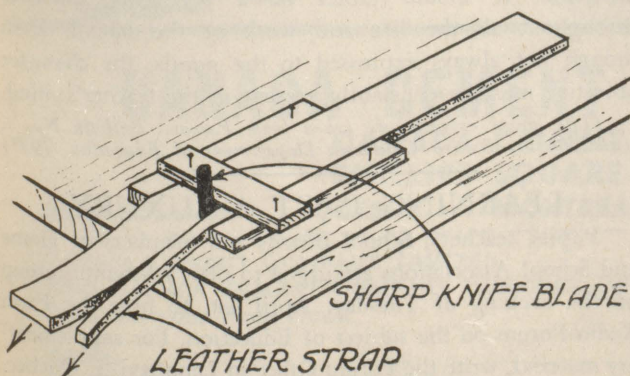
The double-edged stimulant of large orders and vigorous retail demand of civilians has been evident for many months. Manufacturers have been forced to adopt a policy of restricting orders from civilian sources in order to be certain that when the Government wanted goods or wool it would be available.

## CHEESE PRODUCTION DECREASES

According to the Dominion Bureau of Statistics the production of cheese in Canada for the month of January 1941 decreased 37.2 per cent as compared with January 1940. During the same period butter production increased 11.7 per cent. It would seem that if we are going to increase our cheese production to meet the requirements of the British people some encouragement to the farmer may be necessary.

It is interesting to note that the largest decrease took place in Ontario, Manitoba and Quebec with 45.8, 41.2 and 31.4 per cent respectively. Saskatchewan and Alberta showed increases of 27.6 and 26.8 per cent.

When you have some heavy leather to split, a sharp knife and three blocks of wood will do the job. The side blocks should be about the same thickness as the piece of leather that is being cut. If the strap is very heavy a block can be placed on each side of the knife to support it.



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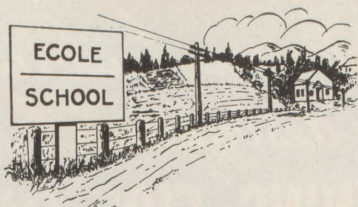
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# SCHOOL PROBLEMS AND VIEWPOINTS



## PROPAGANDA

From time to time it is charged, almost invariably without foundation, that teachers in the schools are taking advantage of their positions to propagate their own views, or the views of groups to which they belong, upon controversial issues. The modern world is full of propaganda of all kinds. It is a function of the school to develop critical thinking. Propaganda and critical thinking are the opposites of each other. The teacher, therefore, must maintain the highest measure of impartiality in the study of controversial questions. The dissemination of biased or partisan views, whether reactionary or radical, is a betrayal of trust, is harmful to public education, and destroys the influence of the person who indulges in it. It is not propaganda, however, in the sense in which exception is taken to it, to instil into the pupils a love of country, loyalty towards it and towards our common throne, Empire and Commonwealth, appreciation of our free democratic institutions, and respect for law and order. All of these are consistent with the stated aims of our system of education, and the development of these sentiments is a duty of the school.

The following paragraph is applicable in all teaching:—

"While the pupils should be led to the understanding and appreciation of the democratic principles upon which our constitution and our national life are based, the teacher should bear in mind that to take advantage of his position to propagandize his own views—political, economic, religious, or other—or the views of any party or group to which he may belong or with which he may sympathize, violates the objectives of education in general, and is inconsistent with the ethics of the teaching profession. It is the function of the teacher to provide the pupil with material to think about, with a method of thinking, and with situations and problems which challenge him to think. It is not the function of the teacher to tell him what he is to think."

## THE RURAL SCHOOL

In spite of its obvious handicaps the rural school has many compensating advantages as an educational institution. The responsibilities of farm-life and the intimate contact with nature and the soil are educative forces that cannot be matched in the city. The mingling of pupils of all ages in the school itself provides a natural learning situation which makes for responsibility, initiative and comprehensive grasp. The programme of studies must be made adaptable to a school organized in three or four groups rather than in yearly grades and the rural teacher

must think in terms of essential end-products of education more than of minute subject details.

## THE TEACHER

Throughout all types of school the character of the teacher is of fundamental importance. Of all the educative forces within the school, the personal influence of the teacher is the most potent in its effect. The good teacher must have many qualifications—the capacity for growth, a broad and well matured conception of education, a thorough command of subject-matter, a mastery of the principles of teaching (including foundations in psychology and sociology), an understanding of the economic and social structure of the modern world, a wholesome and likeable personality, appreciation of aesthetic values, tact, kindness, and high ideals. He should be himself what he would have his pupils become.

## THE SCHOOL AND THE HOME

The school should establish close contact with the home. The teacher should know the parents and home conditions of each child and should secure the good-will of the family. The parents should feel that they play an important part in the total plan of education. Opportunities to visit the school during its every-day work as well as on festal occasions are means of cultivating interest in the school and an understanding of its work.

## CHARACTER EDUCATION

The ultimate goal of all education is character. Every detail of school experience makes a contribution, for good or ill, to the character and personality of each pupil. Since the development of character is part of all education it should be the first consideration of every teacher. Moral education cannot be fully successful if it is thought of as a subject to be taught within specified periods of the timetable. It should rather be a pervading influence throughout all the life and work of the school. Even though not always expressed to the pupils, the character objective must be constantly present in the teacher's mind.

*(The above extracts are taken from Parents' Bulletin No. 7, issued by the British Columbia Department of Education, 1937)*

## LEARNING ISN'T A LUXURY

Pupils, teachers, School Boards and members of Home and School Associations are urged to plan a listening group on the evening of Tuesday, April 1st, to hear the Farm Radio Forum on the subject of Education. For supplementary material, write the Forum Office in Lennoxville, Quebec.



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## DESIGNS FOR LEARNING

*The spoken word perishes, but the written word endures.*  
—HORACE.

### A MAN . . . THINKS

You can teach a man to draw a straight line, and to cut one; to strike a curved line and to carve it; and to copy and carve any number of given lines and forms, with admirable speed and perfect precision; and you find his work perfect of its kind; but if you ask him to think about any of these forms, to consider if he cannot find a

better in his own head, he stops; his execution becomes hesitating; he thinks, and ten to one he thinks wrong; ten to one he makes a mistake in the first touch he gives to his work as a thinking being. But you have made a man of him for all that. He was only a machine before, an animated tool.

—John Ruskin.

### ADULT EDUCATION NOTES

To date there are 56 groups of the CBC Farm Forums in Quebec. These involve over five hundred people. A complete list of the groups follows:

Four in Poltimore; three each in Ormstown and Macdonald College; two each in St. Rose de Lima, Kingsbury, Aylmer East, North Hatley, Lennoxville, Danville, Cookshire, and Ayers Cliff; and one each in Dunham, Gatineau Point, Denholm, Holland's Mills, Quyon, Aylmer, Shawville, St. Martine-de-Chateauguay, Ways Mills, Maryland, East Farnham, Waterville, Abbotsford, Windsor Mills, Lachute, East Templeton, Rupert, Foster, Massawippi, Hatley, Sherbrooke, Wyman, Huntingdon, Farrellton, Dixville, Philipsburg, Angers, Coaticook, Montreal, and New York City.

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About fifty percent of the Forum Findings sent out to all groups are answered and returned. These give the opinion of the farmers on the various topics of the broadcasts. It is hoped that all the groups will get down to answering the questions and sending in their findings, for these form the only concrete expression of the farmers on the problems raised.

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The time of the Forum broadcasts has made it difficult for some farmers to hear it. Since the 19th of February, however, a transcription of the programme has been broadcast over Station CHLT at 8:30 Eastern Daylight Saving Time. This may be heard every Wednesday night by groups in the vicinity of Sherbrooke.

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A large amount of material has been going out to the groups every week from the Centre in Lennoxville. Not only are the Canadian Farm Problems pamphlets, the recreation material, and the Greenleaf newsletter being sent to the registered forums, but many related government and university extension department bulletins and booklets are being mailed along with regular matter.

### READY FOR READING?

A MANUAL OF GROUP DISCUSSION by Lyman Spicer Judson. This is a large (184 pages) cardboard covered book put out by the University of Illinois. The matter is well treated and the book is filled with many practical examples. Every group, and group leader especially, can benefit from its perusal, for this is a practical manual that covers all aspects of group discussion. Also included are sections on How To Get Material for Discussion Topics, Suggested Rules for a Discussion-Team Tournament, The Fundamentals of Parliamentary Law, Additional Aids for Guides and Experienced Members, and a list of references on discussion methods. Copies may be secured from the Rural Adult Education Service in Lennoxville for half a dollar.

\*THE HOUSEHOLD PAINTER by A. Ashman Kelly. This book is intended for the use of the household, it has full directions for painting, decorating, papering, calcimining, whitewashing, stencilling, wood finishing, wood staining, varnishing, etc. It also contains many notes on these subjects, and on various matters of interest to the household management. There are many illustrations, and a complete index. Published by David McKay Company, Philadelphia.

\*UNDERSTANDING THE ARTS by Helen Gardner. A simple, yet interesting account of the arts, from painting and sculpturing to the art of the book, of pottery, of city planning, and of building. The last chapter on Art in everyday life is of especial interest. The book contains many good illustrations. Harcourt, Brace and Company.

A report on the Community Schools has been completed. The first part of it will be found in an early issue of the Journal. There will also be a report on Adult Education work in the Eastern Townships in the April issue of the Journal of Adult Education, quarterly publication of the American Association for Adult Education.

\* In the Eastern Townships Book Pool.



## More Food For Thought

The first series of pamphlets on Canadian Farm Problems has been received with an enthusiasm which fully justifies the effort put into their preparation. Attractively printed by the Canadian Association for Adult Education and circulated as study material for the listening groups in connection with the Farm Radio Forum, these sixteen pamphlets have been widely read and generally approved. But the first Farm Radio Forum will soon be over and those who have listened in will be taking stock of the value in information and new ideas which the broadcasts and the group discussions have provided. Already there is ample evidence of the success of the whole project.

It has, however, been only a good beginning at the consideration of a few of the problems that beset rural people. There are many more problems than have yet been raised and all of them will take much more in time and effort for their solution. Groups now organized will want to carry on after the last broadcast on April 8th and even if some are interrupted by the pressure of spring work, they will want to resume their study at a later time.

Anticipating this need, members of the staff of Macdonald College, under Dr. Brittain's leadership, have, in the course of the past winter, produced basic material in the form of study outlines in six different fields of interest to rural people. Following the main emphasis of the College throughout the years on the necessity for the improvement of farm methods and practices the most extensive of these studies deals with agricultural production. Others are on Nutrition, Co-operation and Rural Life. The list follows:

1. **ANIMAL PRODUCTION:** a series of five outlines, on Feeds and Feeding of the swine herd, the dairy herd and the sheep flock.
2. **CROP PRODUCTION:** Twelve studies on cultivation, crop rotation, seed, improving hay crop and pastures, silage, etc.
3. **POULTRY PRODUCTION:** Nine outlines on such subjects as; the Poultry Flock on the General Farm; Use of Incubators; Winter Feeding; etc.
4. **NUTRITION:** Six studies provided by the School of Household Science on Foods; the Value of Milk and Milk Products; the Place of Cereal and Grain Products; of Vegetables and Fruit in the Diet; How to Plan Adequate Meals at Moderate Cost; etc.
5. **A RURAL LIFE SERIES** includes four outlines on Rural Schools; Organizing and Financing the Larger Unit of School Administration; and one on Rural Health.
6. **A SERIES ON CO-OPERATION** in twelve studies deals with basic principles, essentials to success, organization and management, etc.

These series of outlines, with supplementary bulletins and booklets will be available early in April. An attempt has been made to keep the cost low. Prices and further details will be announced later, or may be had on application to Macdonald College.

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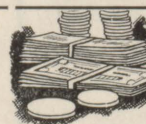
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## Use Manure for Fertility

Farmyard manure is the oldest and best known method of fertilizing land, the chief trouble being that rarely can the farmer get enough of it.

In order to maintain the fertility of farm land, it is generally considered advisable to make an application of manure equal to four tons per acre per year. This is not applied every year, but usually once or twice during a rotation, depending on the crop grown. In a four-year rotation, starting with a hoed crop, the 16 tons of manure is spread before the crop. In a grain and hay rotation, this amount of manure before the grain crop would cause it to lodge. The best practice is to use eight tons before the grain and use the other eight tons as a top dressing on the hay land. Where there is not sufficient manure, it may be supplemented to good advantage by chemical fertilizer.

In the wartime series of bulletins issued by the Agricultural Supplies Board, No. 27 deals exclusively with farmyard manure, and No. 25 with fertilizers for various crops. Other bulletins deal with the fertilizing of specific crops. The bulletins may be obtained free from the Publicity and Extension Division, Dominion Department of Agriculture, Ottawa.



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## THE QUESTION BOX

*Have you any problems that are bothering you? This column is at your disposal. Address your questions to the Editor, Macdonald College, P.Q.*

At what temperature (Fahrenheit) should cream be immediately before churning? What proportion of salt (by weight) should be used to season freshly made butter? What style of churn do you consider the most efficient?

R. McM.

*Answer:* As a general rule it is necessary to use higher churning temperatures during cold weather. At the present time cream for churning should be raised to 66 or 68 degrees Fahrenheit. If the butter comes too quickly and is soft you can correct this by washing the butter with water which is 4 or 5 degrees colder. It should be kept in mind that a high churning temperature is likely to result in softer butter with higher moisture content. If you have trouble with this, lower the churning temperature 2 or 3 degrees.

The amount of salt most commonly used in one-half ounce per pound. The barrel churn is preferable to all other types.

What is the best way to graft my 10-year old apple trees? The trees are hardy and well-formed but I want to change the variety.

A. F. M.

*Answer:* This question is answered fully in Dr. Hilton's article which appears in this issue.

How late in the season should apple trees be pruned? When should fertilizer be applied to my fruit trees?

E. J. H.

*Answer:* Apple trees should be pruned before growth starts, if possible. They may be pruned later, however, without any great harm, but pruning should definitely be over by the latter part of May. Most growers prune through the months of February and March.

Fertilizers containing nitrogen should be applied either in late fall, or in

# 3 FEATURES

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## RAPID-FLO FILTER DISKS

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early spring before growth starts, for best results.

The non-leaching forms of nitrogen viz: cyanamid and ammonium sulphate, may safely be applied in the late fall, and will then be more readily available in the spring. Nitrate of soda, and complete fertilizers such as 9-5-7 or 4-8-10, are better applied in early spring—at least three weeks before blossom time.



## STRIPPINGS

by Gordon W. Geddes

When this gets into print the sugar season may be commencing. At any rate it won't be far away and plans will be forming for tapping the maples. "Sugar-ing" is really a great time for taps and tappings in all the different meanings we have a habit of assigning to one poor word.

In the first stages of the job there is apt to be a great deal of tapping in the process of erecting the smoke-stacks and getting the buckets pulled apart for washing. Then we start tapping in the sense of boring a hole for the spout in the trees. Next we drive in the spout with a series of taps from a hammer. If the sap is flowing we'll hear it tapping on the bottom of the bucket until there is enough sap to prevent the sound. This one will be repeated at intervals throughout the season whenever the buckets are emptied when the sap is running. Somehow though it is not as noticeable as on that first start. Then it seems to be fairly hustling out of the spout and sends one hurrying on to tap the next tree before any more of the precious fluid gets by.

We're not through with taps yet either. If someone has bumped the threads on some of the pipes or couplings that handle the sap, we may need a die and a tap to fix them with. A little later on, too, we're pretty sure to hear a woodpecker tap on the tin buckets. What a merry racket he can make! No wonder those shiny buckets tempt him. If I were in his place, I should want to hunt out a complete scale of tones on different buckets, station a woodpecker at each and deliver a woodland symphony. He is content just to try a few taps occasionally but the old-timers say that when he taps on the sugar-house roof, you may as well gather in the buckets and call it a day. However, we have more confidence in general weather conditions than in

woodpeckers, though we all often get fooled both on the start and the finish of the season. Sometimes the early bird gets the sap and sometimes he gets his buckets frozen full and squirms around like the proverbial worm trying to decide whether they are likely to burst and drastic steps must be taken to get the sap out.

Once you do get some sap, what a variety of delicious stages it does go through! A great many people, particularly the youngsters, think even sap is pretty good stuff. When it is partly boiled, it makes good drinking if you get it cool enough so it won't burn your tongue. A little later, as syrup, it's hard to beat or so it seems until it gets to the wax stage, "la tire" the French call it, though usually we say it's ready to "lay" and call it sugar on snow. Some prefer it a little later when it will "grain" if stirred a little. Our own favorite is a lump of maple sugar to chew on and crunch the goodness right out of it.

Whatever your preference, it's sweet stuff from start to finish. It isn't always a sweet job to get it though. Like most jobs there are disagreeable phases. Tapping on the "crust" is great fun but when there is a good depth of soft snow and every step goes clear to the bottom, it's real work. Lugging heavy pails of sap on the same going is work too. Sometimes it is hard even to get roads broken through for the horses. The crust that is such a help to the men is hard on the horses so we have to wish mostly for weather to suit them and let the men do their own worrying. They have only two legs and no sharp shoes to cut themselves and can't get in nearly as much of a mess as a team of horses.

By the time we are ready to gather in the spouts and buckets and call it a day, we are surrounded by signs of spring, birds singing, flowers and buds bursting and by no means the least beautiful, the Mourning Beauty butterfly which usually appears at just about that time.

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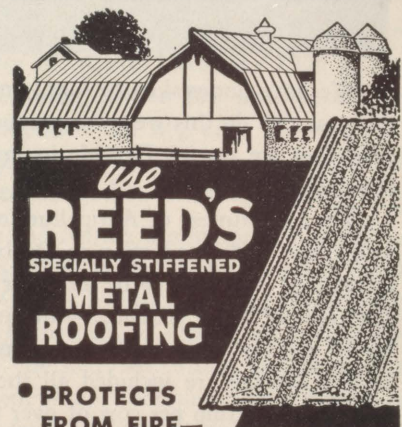
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## DEPARTMENT OF AGRICULTURE

*Activities, Plans and Policies of the Quebec  
Department of Agriculture*

### WE NEED MORE MILK



We have undertaken to supply more cheese for Britain this year. To do this we must produce more milk than last year. Can we do it? Dr. Morin says we can, and shows how below.

The Department of Agriculture of this province intends to increase milk production in Quebec; the objective is an increase of 200 pounds of milk per cow per year. Quebec cows are not heavy producers—the average for the province for 12 months is only 4300 lbs. of milk and 175 lbs. of fat. In this average are included all the better herds with an average production per cow of over 8000 lbs. which means that at least half of our animals produce less than 4000 pounds in a year.

Quebec farmers keep an average of 8 cows per farm, and the average size of farm is 83 acres. It appears, therefore, that we are producing only 19 lbs. of butter fat per cultivated acre per cow. This is far less than the objective toward which we should be working—100 lbs. per cow on about 3 acres of cultivated land. The point is this—we do not keep a large enough number of cattle per acre of cultivated land.

We should easily be able to raise the average production of milk per cow to 4500 pounds. Some herds in Quebec already average 8000 pounds; the average in other countries, Denmark, Holland, etc. was around 7000 before the war. There is no reason why we should not reach at least 4500 lbs.

#### More and Better Feed

And we can do it without any great expense. Come what may, farmers must raise better hay, harvest more grain, grow more roots and silage and improve their

pastures. That is the best way to secure proper feed with a minimum of purchasing from outside sources. Do not forget that well-cultivated fields still are the cheapest source of supply for feeds.

On many farms the quality of the hay must be improved; it can be done by sowing more legumes, especially clover and alfalfa. These supply proteins, the most expensive item in the food of dairy cows.

#### Grain and Silage

Many farmers will find it profitable to grow more grain. We should harvest more oats, more barley, more mixed grains. We complain, and justly, of the poor harvests, but care in choosing suitable land on which to grow these crops, proper preparation of the ground and the use of good seed of good varieties, will increase yields. It costs no more to harvest 40 or 50 bushels from an acre than to harvest 25. Every effort should be made to raise most of the grain needed for feed on the farm so as to buy as little as possible.

Corn silage is the best on account of its succulence and feeding value. It is easily stored and should be part of the winter ration wherever corn can be grown successfully. On farms where there is no silo, or in districts unsuitable for corn, roots should be grown for winter feeding.

Grass is the natural food of dairy cows. About one-third of the settled arable land of Quebec is in pasture, but at least 60% of them do not furnish satisfactory grazing.

#### Pasture Improvement

Pasture improvement is a pressing problem: on its solution depends to a great extent the profitable operation of a dairy herd. A lot of work has been done lately to improve pastures by fertilization, to encourage the growth of clover, and of tender nutritious grass. On a well-established pasture the use of commercial fertilizer is recommended to stimulate growth. The recommendations of the Provincial Committee on Chemical Fertilizers should be followed in this work.

In order that milk production will not fall off drastically when the pastures begin to dry early in July, there should be a supply of green forage available. Oats, peas and vetches sown in mixture are excellent and three sowings ten days apart should be made.

Particular attention must be paid this year to the renovation of old pastures: those covered with moss and weeds, or which grow grass with little or no feeding value.



## Herd Improvement

But no amount of attention to crops will offset the effect of poor milkers in the herd. Every one of these cuts down the average for the herd and absorbs some of the profits. Poor producers must be got rid of. A smaller herd of good cows is more profitable than a larger herd of poor ones.

And finally, proper care and feeding of in-calf cows is important and is often neglected. Let us pay more attention to this in future.

If we are to increase our production of milk in 1941 so that we will have enough to fill our contracts with Britain, with enough left over to make into butter for our own needs, let us take steps to improve our herds, and to make plans for raising a sufficient amount of good feed for our dairy cows on our own farms.

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## THE QUEBEC LIVESTOCK BREEDERS' MEETING

Four hundred agriculturists, breeders and technicians gathered at Quebec City last month to attend the 46th annual meeting of the Quebec Livestock Breeders Association. This organization, founded in 1895, is an affiliation of 12 individual breeders' associations, representing over 3500 members, each of which has as its objective the improvement of quality of Quebec livestock.

Dr. J. H. Vigneau will be the new president of the Canadian Horse Breeders Association. The St. Joachim Horse Breeding Station has been closed, but some of the animals have been transferred to Deschambault. The Quebec Percheron Club reported good progress during the year and it was pointed out that there are at present 250 Percheron breeders in the province.

The Provincial Livestock Commissioner, R. Dionne, emphasized the value of the postal control system, reporting that over 39,000 cows were on test under this scheme in 1940.

A number of resolutions were adopted during the sessions; among the more interesting of these might be mentioned the following:

A request that legislative action be taken to standardize the weight of bags of grain sold in the province.

A request that more veterinarians be put at the disposal of the breeders by the government, so that there will be a greater amount of protection for our herds against disease.

A request that a law be passed prohibiting the entry into Quebec of cattle suffering from any contagious disease, especially tuberculosis.

A request to both Federal and Provincial Governments to make vaccination against contagious abortion possible.

W. R. White of the Federal Department of Agriculture pointed out, in a discussion of commercial feeds, that farmers can save money in two ways—by buying feed in bulk when prices are low, and by using less expensive feed.

Excessive purchases of commercial feeds when other feed is available results in higher costs.

Dr. Veilleux described contagious abortion, and stated that this may exist in two forms: a virulent type in which case abortion is almost always a result, and a milder form which may often pass unnoticed. The only way to identify the disease is by means of the blood test. With regard to vaccination against contagious abortion, Dr. Veilleux stated that vaccination would be made available to all those whose herds were badly infected, but called attention to the fact that this was still in the experimental stage and that no guarantee of success could be given as yet. Vaccination increases resistance to infection but does not give complete and permanent immunity. Its chances of success are increased in sanitary stables.

Sheep breeders heard with satisfaction that a law protecting sheep flocks against dogs had finally been passed, but were disappointed that the Federal Government would not be responsible for granting bonuses for graded rams. It is to be hoped that the bonuses offered by the Quebec Department will help keep up the interest in raising pure bred sheep.

L. W. Pearsall, Secretary of the Bacon Board, estimated that hogs marketed for the period December 1940 to May 1941 would be 35% more than in the same period last year, and that the estimated fall hog crop for 1941 will probably be about 2% more than last year for all Canada. A decrease is expected in Quebec and the Maritimes.

Messrs. L. P. Roy and Adrien Morin both addressed the meeting. Dr. Roy urged an increased production of better crops to use to feed Quebec livestock. "It is a better policy to improve our own farms than to depend on buying feed grain from the West" he said. Mr. Morin announced that the Quebec Department would continue to pay, though on a reduced scale, the premiums formerly paid by the Federal Department for the purchase of class AA and A bulls, and that premiums for young bulls qualified on both sides would be continued. They will no longer be paid for bulls qualified only on one side.

The Prime Minister, Mr. Godbout, left an inspiring message with the members. Speaking at the closing dinner, which featured Quebec products entirely, he said that the patriotic duty of the farmers today was to stick to their farms and do all in their power to improve them. Above all, he said, it is essential to instill a love for the land in the hearts of our children. "Courage and tenacity should be our watchwords," he said in closing.

The new president of the Association is the Hon. Antonio Elie, who succeeds Louis Jargaille. Prof. Toupin was elected first vice-president and A. E. Dyson second vice-president.

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Canadian apples and those who favour them are "Empire" to the core.



## GOOD MILKING RECORDS ARE NECESSARY IN PLANNING HERD IMPROVEMENTS

Milking records for each cow are the best means at the disposal of a dairy farmer to plan improvements in his milking herd. It is hardly necessary to say that he must know which are the good milkers and which are not; that is obvious. But appearances are deceptive and one cannot pick out the mediocre animals just by looking at them. Accurate information about each cow's performance is needed if the poorer producers are to be spotted and got rid of, and this information can be obtained from the milking records, which show how much milk each cow gives daily, and what it tests in butterfat.

It is not the size of a dairy herd which is important — it is the quality of the individual animals in it. When a farmer has information which will enable him to weed out his poor producers and replace them with better ones, he will find that he can get the same volume of milk from fewer cows, with naturally a lower cost of production. This information comes from the records.

In general, dairy cows in the province of Quebec have the reputation of being mediocre producers. If statistics are to be believed, the average production per cow for 12 months is but a little over 4000 pounds of milk and 160 pounds of fat. The animals just about pay the cost of their feed and housing, whereas a prosperous dairy industry should be the backbone of our agricultural programme.

It must not be assumed that there has been no improve-

ment during the last few years. Much progress has been made, and this has been due to a large extent to the fact that more and more farmers are realizing that the milking records give the best information on which to base a decision as to what steps to take to improve their herds. At the present time 3,202 farmers are keeping milking records of 39,142 cows.

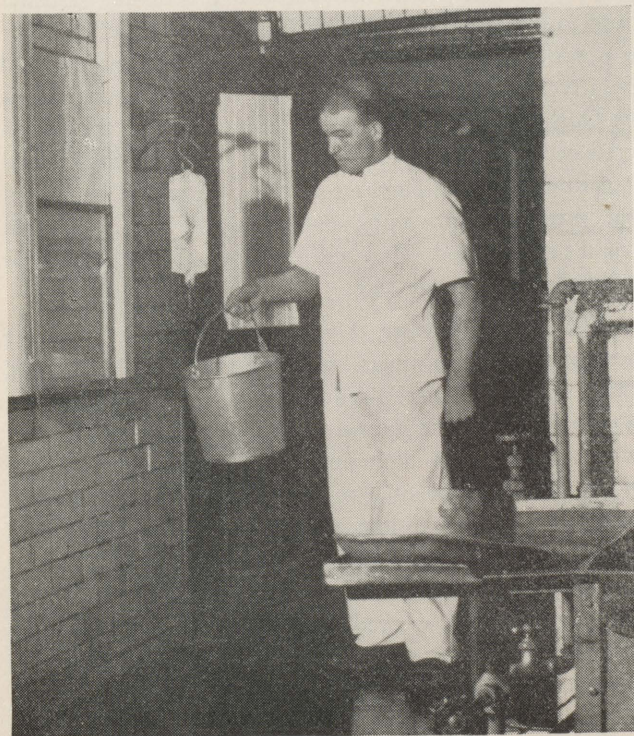
These records do for the dairy herd what good book-keeping does for the whole farm. They give information, keep up the interest, and stimulate the owner's determination to get the highest possible production from his animals.

### The Postal Service

The R.O.P. is confined to pure bred herds, but the postal service operated by the Department of Agriculture is easy to use, and should be used by every farmer who has a pure-bred bull at the head of a non-registered herd. The samples of milk are sent to Quebec by mail, and so are all reports. The service costs only \$2.00 per year per herd, and many farmers all over the province make use of it winter and summer alike. The samples sent in are tested at the laboratories at Quebec, and the central office sends out the monthly reports. The Department supplies all the necessary bottles and boxes for shipping the samples, pays the postage, and sends each farmer a steelyard for weighing his milk.

Once started, the system works smoothly. The milk from each cow is weighed after each milking and the weight is entered on the special sheet provided. To get the butterfat content of the milk, a sample is taken from all milkings of any one day. All the samples from the same cow are put into a special bottle, numbered to correspond with the number of the cow, and sent to Quebec for testing. This is done once a year.

If you are not already making use of this system, the Department will be glad to help you start. Just write to Quebec for full information, or see your agronome.



Careful weighing after each milking gives reliable information.

The annual meeting of the Belgian Horse Breeders' Association was held in Montreal early last month. About 250 guests attended the banquet and heard talks by the President of the Association, Gustave Toupin, Premier Godbout, who was the guest of honour, and Mayor Raynault. Others at the head table included the Belgian Consul, Mr. Heyne, the Ministers of Agriculture from Ontario and New Brunswick, the Provincial Secretary of Prince Edward Island, the Federal Deputy Minister of Agriculture, Mr. Morin, Acting Deputy Minister of Agriculture for Quebec, and others.

Commercial feeds got mixed up with commercial fertilizers in last month's Journal. We refer to the weight of bags sold in the province which should, of course, have referred to feed, not fertilizer. This was a slip in translation for which we apologize.



## PASTURE FERTILIZING COMPETITION

As part of its drive for more milk from Quebec cows, the Department of Agriculture, through the Agricultural Societies Division, suggests that the Clubs throughout the province sponsor a Pasture Fertilizing Competition. Full details are being sent to the local secretaries, but the plan in brief, is as follows:—

The clubs will arrange to pay bonuses out of club funds to members who agree to cooperate. There must be at least 20 entrants in each club, each of whom owns a dairy herd and agrees to fertilize some pasture land that has not already been so improved. At least 1/3 acre for each cow must be fertilized according to the recommendation of the Department. Each competitor will be visited during July and his efforts will be judged for (a) time of fertilizing, (b) kind and amount of fertilizer used, (c) area fertilized, (d) date cows went out to pasture, (e) condition of pasture (weeds removed, etc.), (f) water and shade, (g) amount of interest shown. 65 points out of a possible 100 must be scored before anyone is eligible for a prize. Prizes of two, three or four dollars are suggested.

### Notes on Pasture Fertilization

The following notes are addressed to those farmers who intend to fertilize some pasture land in the spring of 1941 as an economical way to increase milk production, so that they can take advantage of the better prices offered for dairy products and provide for the requirements of the foreign and domestic markets.

**CHOICE OF LAND:** Choose land which can be left at least three years in pasture before being ploughed. A permanent pasture will serve, provided that the sward is not too thin; a meadow which has been used as pasture for a year will, on the whole, be more satisfactory than one which has always been in hay. In any case, the presence of a little white clover in the sward is a guarantee of success. Try to choose a field which is neither too wet nor too dry, and is reasonably close to the farm buildings.

**NATURE AND QUANTITY OF CHEMICAL FERTILIZER:** There are two series of recommendations on this point, according to whether or not the soil supports the small wild white clover. A careful examination of the sward, especially where droppings are abundant, will show if this plant is present.

*On soils where wild white clover is found:*

Clays and clay-loams

500 lbs. superphosphate 20% per acre.

Sandy and gravelly soils

600 lbs. of 0-16-6 per acre.

*On soils where wild white clover is not found:*

Clays and loams

500 lbs. of 2-16-6 per acre.

Sandy and gravelly soils

500 lbs. of 2-12-0 per acre.

The above quantities should be considered as the minimum. Better results will be obtained by applying one ton of fertilizer on four acres than by spreading it over six or eight acres.

**TIME OF APPLICATION OF FERTILIZER:** Superphosphate and 0-16-6 should be applied as early as possible after the snow melts. Fertilizers containing nitrogen (2-16-6, 2-12-0) can be applied several days later, but in any event before the grass begins to get green. Fertilizing early in spring is of extreme importance if good results are to be obtained in 1941.

**BARNYARD MANURE:** For light soils and those lacking organic matter (humus) a light application of manure is desirable. However, the manure must be spread uniformly over the entire area of the pasture which is to be fertilized.

**HANDLING OF FERTILIZED PASTURES:** It is recommended that:

1. The animals be put on the fertilized pastures early in the spring, when the grass is three or four inches high.
2. The animals be taken off the pasture when it has been grazed as uniformly and as closely as possible.
3. Tufts of grass and weeds which have not been grazed be mown before they go to seed.
4. Animals be returned to the fertilized pasture when the grass has again grown to a height of four inches.
5. That the pasture be grazed less closely during dry periods than it was in the spring.
6. In the fall, (after the pasture season) that the droppings be spread out over the field.

**WATER AND SHADE:** It is essential that cows which are milking should have a good water supply, and protection against the sun. A temporary shelter should be built for them.

**SUPPLEMENTARY FEEDING:** Short swards which contain a lot of leguminous plants (white clover, alfalfa, etc.) provide an abundance of protein. For heavy milkers which should be given supplementary rations of concentrates, it will be enough, if the pasture is good, to feed a mixture of farm grain (1 lb. for each 5 lbs. of milk.)



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1st prize open get-of-sire at Quebec, 1940.



## White Grubs may be Abundant this Year

In a forecast of the appearance of white grubs in Ontario and Quebec in 1941, G. H. Hammond, Division of Entomology, Science Service, Dominion Department of Agriculture, says a widespread and extremely injurious occurrence of second-year grubs is expected throughout a large part of the central and southern portion of Quebec. A similar condition will obtain in the Oshawa and Niagara areas of Ontario. No economic damage is expected to occur in the Oka-St. Jerome-Montreal area where the grubs will start the season in the third year of their development, spending the winter as adults in the soil.

Throughout the greater proportion of Ontario, however, an abundant flight of June beetles is expected which may cause severe defoliation of shade trees, particularly ash, poplar, and elm, and will provide eggs from which a severe outbreak of the second-year stage grubs may be expected in 1942.

The domestic market for poultry in Canada should continue strong throughout 1941, states the recent issue of the Current Review of Agricultural Conditions in Canada, and it is probable that there will be some increase in the volume of sales.

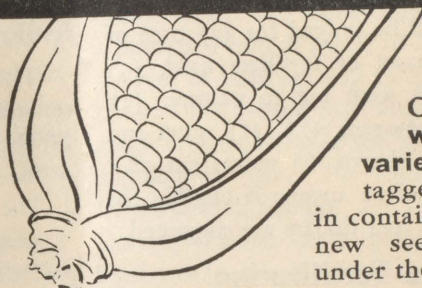
## RED CLOVER

Lack of hardiness in red clover has often been responsible for severe losses through winter-killing in Quebec. The use of home-grown seed in place of imported seed tends to reduce losses from winter killing, but still hardier varieties are needed.

Two new improved varieties are recommended this year by the Quebec Seed Board. They are hardier and higher-yielding than ordinary commercial red clover and should receive increased attention from growers as seed stocks become available. They are Dollard and Ottawa.

For **GREATER YIELD**  
and **STRONGER STAND**

*Plant*  
**GOVERNMENT  
GRADED SEED  
CORN**



Corn growers! All seed corn sold in Canada this year, whether standard variety or hybrid, must be tagged, graded and sealed in containers according to the new seed corn regulations under the Seeds Act.

### Named Varieties of Seed Corn:

(1) **REGISTERED**—Registered seed corn results from field inspected crops and is produced only from approved varieties. It is the highest quality named variety of seed corn available.

(2) **COMMERCIAL**—Commercial seed corn is all grown from Registered seed and is derived from inspected fields only. The standards for grading Commercial seed corn are not quite so high as for Registered seed.

**HYBRID SEED CORN:**—Hybrid seed is the result of crossing two or more in-bred lines or varieties. Corn grown from approved hybrid seed produced in Canada has excellent strength of stalk and yielding ability.

The full value of hybrid seed corn is limited to the first year's crop only. It is, therefore, necessary to purchase new seed for each successive crop.

### Important

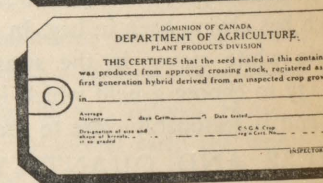
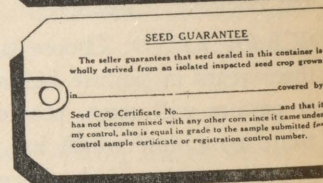
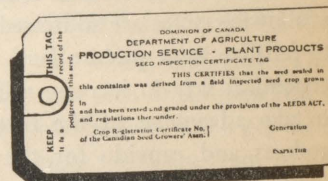
All named varieties and hybrids fall within definite maturity groups—early, medium or late. Be sure you select the hybrid or named variety suited to your district.

Whether you plant a named variety of seed corn or a hybrid **BE SURE IT IS PURCHASED IN SEALED CONTAINERS. THE GOVERNMENT TAG IS YOUR GUARANTEE.**

For supplies consult your local dealer. For further information apply to your District Supervisor, Plant Products Division, Dominion Department of Agriculture, your nearest Dominion Experimental Farm, provincial Department of Agriculture or Agricultural College.

### Marketing Service,

DOMINION DEPARTMENT OF AGRICULTURE, OTTAWA  
Honourable JAMES G. GARDINER, Minister.





## When the Feed Bin RUNS LOW

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## MAC. MEN OVERSEAS

We received an interesting letter recently from F. N. (Joey) Pope, who graduated in 1938. Joey spent a year in the West after graduating, and joined the Seaforth Highlanders shortly after war broke out. Writing from England, where he has been for over a year, he says, "Prior to coming over here I was Intelligence Sergeant with my battalion, and in that capacity saw lots of things that otherwise I would not have been able to, and the work of the Bomb Disposal squad is one for which one needs no nerves or imagination. Personally, after having a Molotov breadbasket burst over my head I'm not too keen on such things.

"I have met quite a few Macdonald men since arriving here. Jack Osborne is with the Engineers; I saw Lieutenants Blenkhorn and Macdonald recently, and also Sergeant Charlie Sadd, who was sheep-farming in B.C. before joining up. Last March I ran into a chap who used to help "Old Bob" at the rink. Jack Osborne has also met Ruth Corey of Victoria, B.C., who took the Homemaker course. All of us over here with the C.A.S.F. want to get this war over with as we want to get back to Canada."

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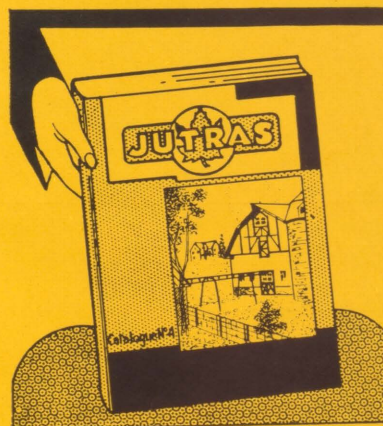
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Cows that are thin at time of calving must use part of their feed to regain condition at the expense of milk production.

Feed spring calving cows sufficient roughage and grain **NOW** to improve their condition before calving and thus enable them to produce more milk at lower cost on pasture.

*Consult your Provincial Department of Agriculture, Agricultural College,  
or nearest Experimental Farm for information on feeds and feeding.*

**AGRICULTURAL SUPPLIES BOARD**  
**Dominion Department of Agriculture, Ottawa**  
*Honourable James G. Gardiner, Minister*